BROOKS FREE LIBRARY
0 0109 0002845 6

THE AMERICAN B.B GUN

A Collector's Guide

Arni T. Dunathan

un: a

$10.00

The American B.B Gun:
A Collector's Guide
ARNI T. DUNATHAN

Buzz Barton, Buck Jones, Red Ryder, Buffalo Bill and the NRA Centennial model are but a few of the hundreds of fascinating B.B guns identified, described, illustrated and priced in this first comprehensive reference to the most cherished of boyhood possessions: the American B.B gun.

The product of three years' research among U.S. patents, museum specimens, company records and personal interviews, the authoritative, fast-moving text is filled with facts and anecdotes about the guns themselves, along with the men and companies who made them.

Famous names not commonly associated with B.B guns—Remington, Upton, Whirlpool, AdLake, Lefever, Hamilton and others—dot the pages, linking B.B. guns with surprising events: foiled bank robberies, the war in Vietnam, bounty hunters and undersea exploration.

While the book's identification and price guide make it a must for gun and toy collectors or dealers, its simple and amusing text, combined with nearly 200 illustrations, make it equally at home on the shelves of any private, public or school library.

Chapter 1 is a record of what it was like to own a B.B gun before mothers formed neighborhood car pools and peptic ulcers became a childhood illness. Any man or boy who ever succumbed to pointing his B.B gun where he shouldn't will delight in the author's reminiscences, ". . . like the time I shot my sister."

Chapters 2 and 3 recount the rise of Plymouth, Michigan, companies, Mark-

(Continued on back flap)

£4.00

Gift 71 SL

The Am
A C

ARNI

Buzz Barto
Buffalo Bill a
model are but
fascinating B.
illustrated and
hensive refere
of boyhood
B.B gun.

The produ
among U.S. p
company re
views, the aut
is filled with
the guns the
and compani

Famous na
ated with B.
ton, Whirlpo
ilton and oth
B.B. guns w
bank robbe
bounty hunt

While th
price guide
toy collecto
amusing text
illustrations,
the shelves
school libra

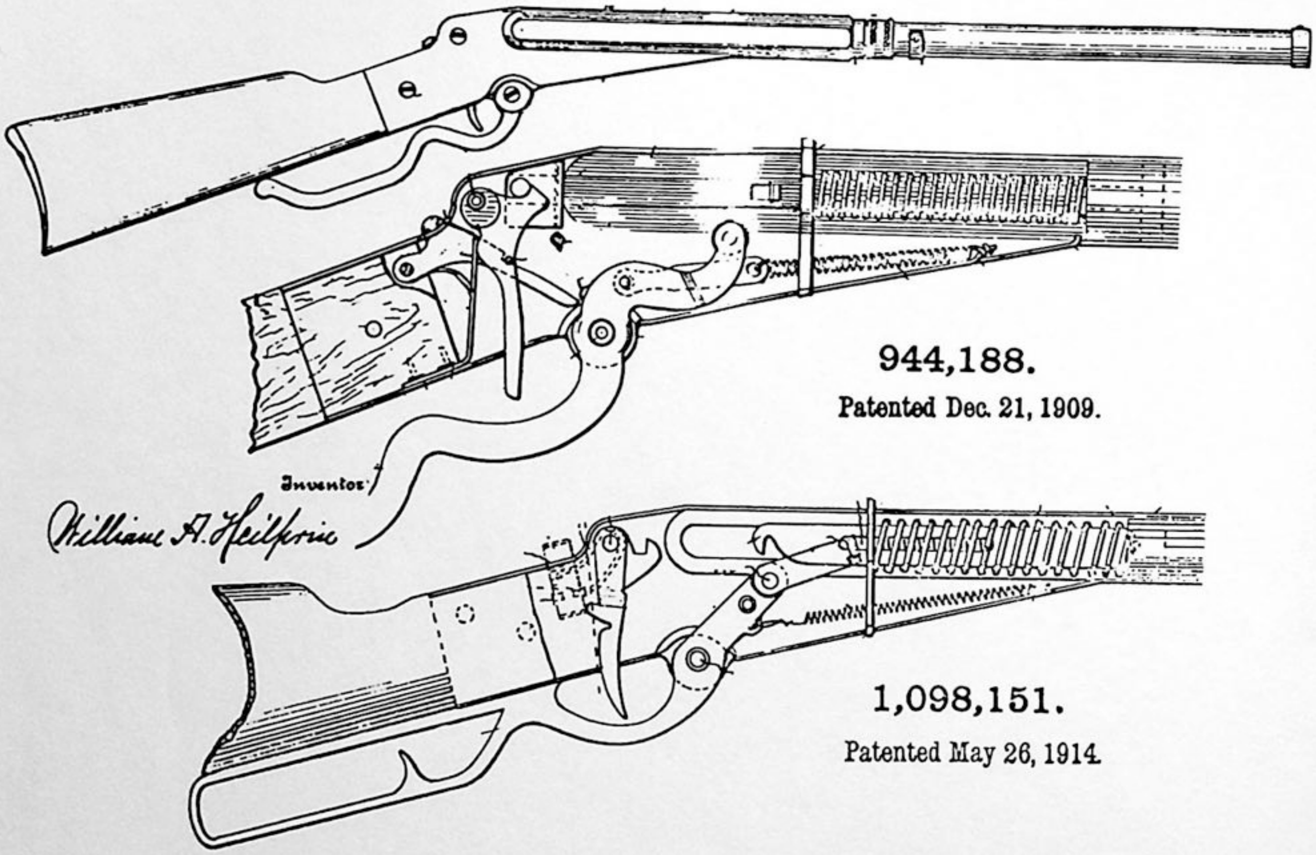
Chapter
like to own
formed neig
tic ulcers
Any man o
pointing his
will delight
". . . like t

Chapters
Plymouth,

(Con

THE AMERICAN B.B GUN

THE AMERICAN


Inventor
William H. Heilprin
944,188.
Patented Dec. 21, 1909.
1,098,151.
Patented May 26, 1914.

Arni T. Dunathan

~~739.7~~
683.42

B.B GUN:

A Collector's Guide

SOUTH BRUNSWICK AND NEW YORK:
A. S. BARNES AND COMPANY
LONDON: THOMAS YOSELOFF LTD

© 1971 by A. S. Barnes and Co., Inc.
Library of Congress Catalogue Card Number: 77-146752

A. S. Barnes and Co., Inc.
Cranbury, New Jersey 08512

Thomas Yoseloff Ltd
108 New Bond Street
London W1Y OQX, England

ISBN 0-498-07803-5
Printed in the United States of America

To
Novelle
who makes silk purses

The A

A

ARN

Buzz Ba
Buffalo Bil
model are
fascinating
illustrated a
hensive ref
of boyhoo
B.B gun.

The pro
among U.S
company
views, the
is filled w
the guns th
and compa

Famous
ated with
ton, Whirl
ilton and c
B.B. guns

v
lib
apte
to ov
med n
c ulcers
Any man
pointing
will delig
". . . like

Chapt
Plymouth

(C

CONTENTS

Preface 9

Acknowledgments 11

1 B.B Guns Were to Sleep Near 15

2 The Markham King Air Rifles 31

3 It's a Daisy 52

4 A Profusion of Alsos 103

5 Collecting B.B Guns 136

Index 151

The A
A
AR

Buzz B
Buffalo B
model are
fascinating
illustrated
hensive re
of boyho
B.B gun.
The pr
among U
company
views, the
is filled v
the guns
and comp
Famou
ated with

ng
ratio
shel
chool li
Chap
like to
formed
tic ulce
Any ma
pointing
will del
". . . lil
Chap
Plymou

PREFACE

This book is the first historical guide to American B.B guns. But it is more than a book about toy air rifles; just as the definitive study of hot fudge could not avoid talking of ice cream and peanuts, one cannot talk about B.B guns without talking about the men who produced them and the boys who bought them.

An unexpected conclusion, which the author realized somewhere near the end of his study, was that American boys have not changed at all throughout more than 80 years of B.B gun production in this country. What has drastically changed is the ecology of boyhood, which has two necessities: room to wander in and time in which to wander. One needs no special powers to observe that space and time are closing in on boyhood. The press of scheduled educational and recreational activities on today's sons is frightening to those who spent some of their boyhood wandering unencumbered through woodlot, pasture and alley, discovering who they were and having the right to change their minds about it. Chapter 1 is a record of what it was like to own an air rifle before neighborhood mothers formed car pools and peptic ulcers became a childhood illness.

Vanishing too is the kind of American industry that produced the B.B gun. Modern industry ensnared in a rookery of regulations must produce high volume speciality items to offset enormous production costs. Not so yesterday's manufacturers. Their simpler operations were more flexible. A factory that produced tin kitchenware could set up for a short contract run of B.B guns and go back to knives and forks if sales were not encouraging. Patents were only a small problem; they were freely granted to any inventor who could come up with even a minor variation, regardless of whether or not its major features were copies of existing designs. The result was a fascinating proliferation of B.B guns totaling nearly 200 models by at least 22 manufacturers.

Chapter 2 is the story of the earliest of those manufacturers, the Markham Air Rifle Company, which in 1886 manufactured the first commercially successful toy B.B gun. Under the direction of W. F. Markham until 1916 and Daisy Manufacturing Company until 1940, when their production ceased, the Markham/King air rifles were boyhood companions to millions.

Chapter 3 outlines the history of the Daisy Manufacturing Company from its shaky beginnings in 1880 as a manufacturer of iron windmills to its lofty status today as the world's largest producer of air rifles. Along the way, Daisy has provided millions of boys with training in safe gun handling, marksmanship, and a sense of the dignity of gun ownership.

So strongly is the name Daisy tied to B.B guns that many men today recall the gun they owned as being made by that company even if it was not. The fact is that at least twenty less well known companies produced hundreds of thousands of toy air rifles, from the elaborate and expensive COLUMBIA to the lowly SIMPLEX. They are identified and described in Chapter 4.

Not all readers will be or become collectors of B.B guns. However, many will want to acquire at least one specimen that matches the B.B gun they recall from boyhood. Others may want more. To get the most enjoyment from collecting one of a kind or one of all kinds, effective methods for locating, acquiring, repairing and maintaining need to be followed. Chapter 5 tells how to go about that.

Strictly speaking, B.B guns do not qualify as antiques (something produced no less than 100 years ago). Of course neither do 1876 Model Winchester rifles, 1947 Kaiser convertibles, or tin Coca Cola trays. But try to find an uncollected specimen.

By popular definition, an antique is any object in which there is collector interest and for which there is little likelihood that the object's quality or design will be reproduced. For B.B guns, the Antique Period can be identified as extending from 1885 to 1900. During that period most B.B guns relied heavily upon cast iron and brass parts with nickel-plated finishes.

The Collectible Period—that is, one in which objects are characterized by the greatest design proliferation, extends from 1900 to 1920. In that period, new developments in sheet metal fabrication as well as the introduction of new action types lead to the widest variety of B.B gun models ever produced.

As B.B gun manufacture became less experimental and centralized in few companies, basic types which had enjoyed popularity were refined and brought to their greatest potential. This Vintage Period marked by excellence in design and manufacture extended from 1920 to 1940 when World War II halted B.B gun production.

The period from 1940 to 1970 is best called the Modern Period and most guns produced in that time are of little collector interest. However, if current developments in B.B gun manufacturing produce the kind of radical new designs some foresee, collectors may have to call this period the Transitional Period.

In the nearly 90 years since W. F. Markham introduced his primitive wooden spring air B.B gun, nearly two dozen manufacturers have produced hundreds of variations of the most popular of all boy's toys. The collector who strives for one specimen of every American B.B gun model must delight in an endless search.

ACKNOWLEDGMENTS

Readers who are disappointed by the absence of footnotes and reference lists may feel secure in the fact that the writer has two profusely documented prepublication drafts which he will be delighted to mail to anyone undertaking further study in this area. From the time this study was begun with nothing more at hand than a desire to learn, the author has become indebted to countless individuals and institutions that assisted in the conduct of this study: to local and state historical societies, museums and libraries from which data were drawn; to newspaper editors and Chamber of Commerce directors who identified knowledgeable local historians such as Edmund P. Yerkes of Northville, Michigan; to business and industrial executives who supplied specialized historical and technical information; to Missouri antique dealers who located specimens for study and collection; to private collectors such as H. H. Lawson of Columbia, Missouri whose array of mail order catalogs was enormously helpful; to authors and scholars such as W. H. B. Smith and Eldon Wolfe whose earlier published research provided a springboard to this work.

Special gratitude goes to the men at Daisy/-Heddon and the Daisy International Air Gun Museum; particularly, Jack Powers who opened many doors and smoothed the way, Richard I. Daniel who made technical things clearer, and Sam Lanham who produced good photographs under great pressure. Most of all, the writer acknowledges the invaluable contributions of Mr. Cass Hough to the historical and technical validity of this work.

Appreciation is also expressed to students at the University of Missouri, Columbia who, during the course of this study, maintained their good scholarship and humor in the face of an oftentimes absent minded professor. Particular thanks are due colleagues Jerry Routh and Dale Talburt for their assistance with graphics, James Parker and Richard Naumann for requiring a minimum of supervision, Miss Carolyn Richards for producing readable typescripts from illegible notes, Miss Rebecca Kahler for parrying interruptions, and Miss Esther Thornton for insightful stylistic criticism.

Finally, to good old Escanaba, Michigan, friends go thanks for making boyhood worth recalling.

The A
A
AR

Buzz B
Buffalo B
model are
fascinatin
illustrated
hensive r
of boyho
B.B gun.
The p
among U
company
views, th
is filled
the guns
and comp
Famou
ated wit
ton, Wh
ilton and
B.B. gun
bank ro

o
ed
ulce
ny ma
ointin
ill del
. . . li
Cha
Plymou

THE AMERICAN B.B GUN

The A

Al

Buzz I
Buffalo I
model ar
fascinatin
illustratec
hensive r
of boyhc
B.B gun.
The p
among U
company
views, th
is filled
the guns
and com
Famo
ated wit
ton, Wh
ilton anc
B.B. gu
ba

d
ulc
ay m
ointin
vill de
. . . li
Cha
Plymo

1

B.B GUNS WERE TO SLEEP NEAR

A bank robber attempting to flee in an automobile was halted abruptly by one shot in the cheek from 12 year old Charles Austin's B.B gun. The bandit ". . . armed with a pistol . . . made no defense, but surrendered." The Detroit News, *May 23, 1926, p. 1.*

The first wild game I ever ate was an English Sparrow—boiled. I don't remember exactly how it tasted, but I can still see how it looked; kind of whitish with traces of brown stuff that scummed to the top of the can we cooked it in. Sparrows were a lot bigger in those days; there were four of us and we all had more than we could eat.

Sparrows, starlings, and pigeons provided the only fallout problem we had in those days. Some towns paid a bounty on them: a penny for a sparrow, two cents for a starling, and a nickel for a pigeon. A boy with a sharp eye and a B.B gun could earn his way up from a cheap breakopen single shot to a lever-action or pump repeater by hanging around graneries or roundhouse roosts.

There was big game too. My teacher told us that eagles were friends of man. They had been known to carry off a lamb or two, but never a man. All that proved to me was that in lean lamb years an eagle *could* carry off a small boy—maybe even come through a bedroom window to get him. Once the newspaper reported that a bear had devoured a small child near the edge of town. My father assured me, however, that a bear was not likely to wander across town to eat a boy in his bed on 12th Street. Later, when a small deer jumped through a shop window on 10th Street, I figured a large bear could easily make it two more blocks. B.B guns were to sleep near.

Not all B.B gun owners were hunters. Most pretended more than they shot. There was a large volume of magic gas given off by a B.B gun which inflated its owner to five or six times his normal size and made an adventure out of even the simplest games. It could witch Indians into a vacant lot and buffalo down the alley, turn the grade school into a Wells Fargo depot and the playground into a corral.

There were two of them: a Comanche over on the left and a Pawnee, or possibly an Arapahoe, in a draw far around on my right. I guess they figured they had me cold . . . but I had a Buck Jones Special . . . it had a compass imbedded in the stock that I always used to navigate from the

> house to the mailbox . . . one always carried one's gun down to the mailbox—never could tell what trouble might spring up along the way.
>
> (Bob Said, "A Room for Remembering," *Gun World,* May, 1968, p. 78. Used by permission.)

And all that with the shot tube out. They boomed with the shot tube out, and if we threw in enough 3-in-One Oil, they smoked too. Everybody blew the smoke out of the tipped-up barrel for no real reason except it looked neat and every cowboy we ever saw did it. If we added a high-pitched ricochet whistle to the boom and smoke, anything gave up and ran.

B.B guns were forced to do a lot of things they were never designed for. Clod shooting was a favorite stunt. Shoving the open barrel of the gun into soft dirt or snow cut out an impressive projectile. Sprewing shotgun-like from the muzzle, the dirty plugs were effective on flying moths and bees at short range. For hornets we were under gunned; it took guts to dust off a hornet. Of course we could always recognize a clod shooter by the sandpaper sound when he cocked his gun.

Unknown to us, J. C. Raymond of New York City in 1896 secured a patent for an air rifle designed not only to shoot dirt and snow clods, but caps too. It's no wonder his gun was never produced. The ones we had did almost all those things and shot B.Bs too.

Kitchen matches shot pretty well. They were close to bore diameter and would light when they struck a sidewalk or school house. On rainy days a pin fitted to the match stick and shot into paper targets backed with sofa cushions made a good dart game. Stones worked too. In fact almost anything that would fit into the muzzle could be shot out again with some satisfaction.

The introduction of steel B.Bs in 1925 was brought about as a direct result of boys shooting any kind of projectile available. Boys in Minneapolis, Minnesota, about 1924 found that the American Ball Company's scrap pile contained many ball bearings which had been rejected after inspection. Many of these unpolished and imperfect balls could be shot from B.B guns. Of course many could not, and in fact jammed and broke the guns. Back at Daisy, Cass Hough was concerned and curious about the unusual number of hopelessly jammed and broken B.B guns being returned to the factory for repair or adjustment. Checking the service records, Hough found that the bulk of guns damaged from steel balls came from the Minneapolis area. After some inquiries, he determined that the ammunition source was the scrap pile at American Ball.

About that time, American Ball too discovered that youngsters were shooting bearings in B.B guns and decided to go into the air rifle shot business. They had barely begun production when Hough arrived. The interests of the two companies proved compatible: American Ball wanted to get into the air rifle shot market, and Hough wanted adequate quality controls to insure proper functioning of his company's air guns. The result was a manufacturing and sales agreement which gave Daisy exclusive agent's rights to steel B.B shot and American Ball a guaranteed and large market. While the steel shot did necessitate some design changes in B.B guns, boys were the beneficiaries; for the same money they received about twice the number of the new steel B.Bs than they had lead.

The story of steel B.Bs is not nearly as strange, however, as some of the other uses to which B.B guns have been put. One of the most unusual was that of William Bebee, famous underseas explorer, known best for his first successful underseas experiments in a bathyscaphe. In 1928, Bebee lead an expedition whose purpose was to collect previously unstudied marine specimens off the island of Haiti. He soon found that available spearing apparatus was too cumbersome and large for collecting the smaller fish he wanted.

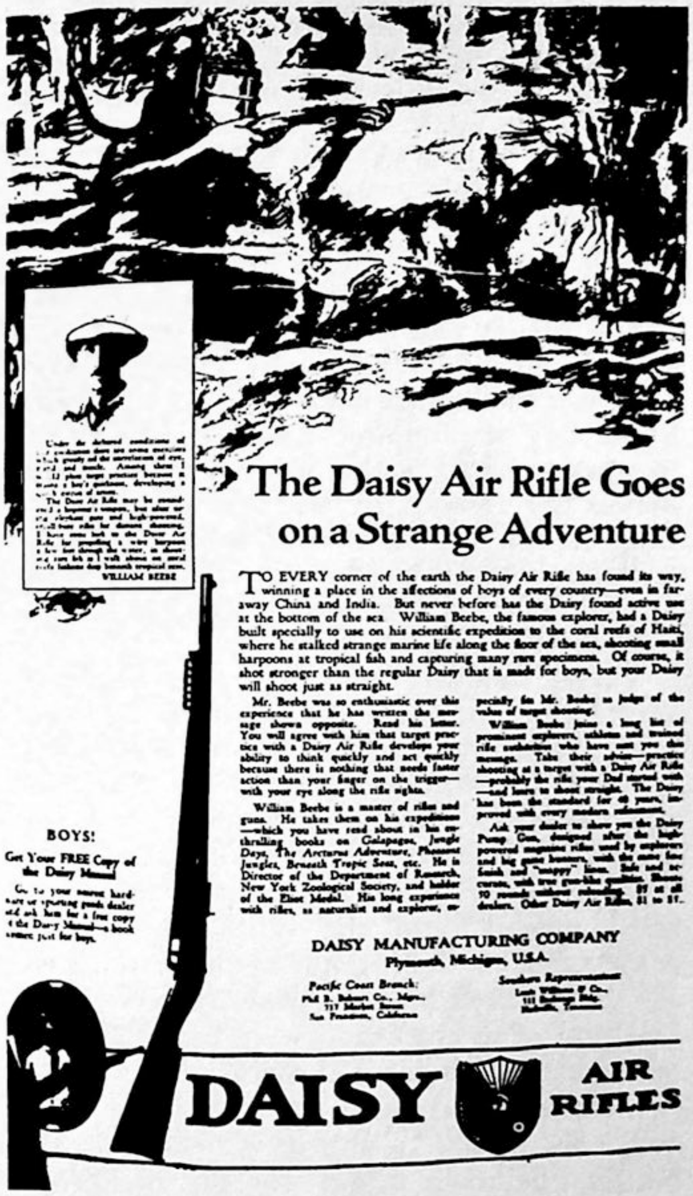
In an attempt to find something capable of propelling a smaller harpoon underwater, Bebee hit upon the spring-powered B.B gun. The idea intrigued Cass Hough, who personally constructed the three Bebee B.B guns. Although harpoon travel could not be more than the four inches traveled by the plunger, the harpoons fitted to the plunger heads proved effective at close ranges as fish clustered around Bebee's diving helmet. As one fish was collected, the diver tugged on the line tied to the gun and it and the fish were raised to the surface and another gun lowered. In this way Bebee collected the fish he wanted and recorded the first and only use of B.B guns under the sea.

Before World War II, most clod, stone and match shooting was done as a stunt—something different to break the monotony of shooting real B.Bs. During the war, stunts became routine and shooting real B.Bs was a rare treat. We scoured old shooting haunts for stray shot. Our basement was my favorite shooting ground. If I hunted long enough, sooner or later I could come up with a B.B under, on top of, or beneath the surface of something.

Shotgun shells, when we could get them, were a good source of ammunition. True B.Bs were actually drop shot screened at .180 of an inch. They were supposed to be too large for our guns, because air rifle shot was standardized at .176 caliber. But there was enough error in the drop shot screens so that about half the B.Bs we got from shotshells fit our guns. We used the Go/NoGo method. If they went down the barrel, we shot them; if they didn't we threw them away. My grandfather lost a lot of goose loads when I visited. I think my uncle lost some too.

With the nation's lead resources committed to the war effort, a kid with extra B.Bs was a kid with the world at his door. In 1945 I hit the jackpot. At a neighborhood rummage sale, I spied a box of shot labeled B.Bs. It turned out to be a full five pounds of lead B.Bs intended for shotshell reloading. Distressed at the idea that they had something to do with guns, and therefore might at any minute explode, the grateful woman accepted my dime and instantly propelled me into fame. The word spread far and wide: Dunathan's got B.Bs.

Then I was collecting *Big Little Books,* and today I have fifteen or more I recall as profit from that five-pound box of shot. How much money I made I don't remember; but it must have been a lot for I remember measuring them out by counting. In 1946, post war industry derailed my gravy train by unveiling the most unlikely projectile ever developed: the infamous aluminum B.B. Its aerodynamic qualities were wondrous. Far too light to make a stable projectile, the


WILLIAM BEEBE

The Daisy Air Rifle Goes on a Strange Adventure

TO EVERY corner of the earth the Daisy Air Rifle has found its way, winning a place in the affections of boys of every country—even in faraway China and India. But never before has the Daisy found active use at the bottom of the sea. William Beebe, the famous explorer, had a Daisy built specially to use on his scientific expedition to the coral reefs of Haiti, where he stalked strange marine life along the floor of the sea, shooting small harpoons at tropical fish and capturing many rare specimens. Of course, it shot stronger than the regular Daisy that is made for boys, but your Daisy will shoot just as straight.

Mr. Beebe was so enthusiastic over this experience that he has written the message shown opposite. Read his letter. You will agree with him that target practice with a Daisy Air Rifle develops your ability to think quickly and act quickly because there is nothing that needs faster action than your finger on the trigger—with your eye along the rifle sights.

William Beebe is a master of rifles and guns. He takes them on his expeditions—which you have read about in his enthralling books on Galapagos, Jungle Days, The Arcturus Adventure, Pheasant Jungles, Beneath Tropic Seas, etc. He is Director of the Department of Research, New York Zoological Society, and holder of the Elliot Medal. His long experience with rifles, as naturalist and explorer, especially fits Mr. Beebe as judge of the value of target shooting.

BOYS!

Get Your FREE Copy of the Daisy Manual

DAISY MANUFACTURING COMPANY

Plymouth, Michigan, U.S.A.

Pacific Coast Branch:

DAISY AIR RIFLES

Specially adapted Daisy B.B guns were used for underwater collection of marine specimens by famous explorer William Beebe. Only three such guns were made; their whereabouts is presently unknown.

aluminum B.Bs soared away from the muzzle as erratically as a dragon fly. But they were plentiful, and compared to what I was getting for mine, cheap.

By 1947, real B.Bs were back on the market. Copper coating was an obvious improvement to the old greasy lead shot. It was cleaner, a bit harder, and from most manufacturers more uniform. Steel shot, too, was copper plated, and if you weren't sensitive to such things you could hardly tell the difference. But the bounce-back was different. Lead had a way of plopping against hard objects, like basement walls, that made it pretty much useless for reshooting, but not so likely to sting on the way back. Steel B.Bs were a bit more active and besides they dented things deeper. The last real lead B.Bs went out in the late 40s.

Target shooting with B.B guns was not very formal in those days. About the only paper punching we did was at Boy Scout camp. Nobody cared for that much. When we shot the husk off a ripe horse chestnut, it was always hit dead center. Hickory nuts were like that too. Hit just right, their husks scattered smartly, and the quick-handed boy could catch the falling nut before it touched the ground. But holes in paper targets didn't lie. Most of us crackshots were humiliated at our first tries for score at a real target.

Homemade targets were more fun. The best ones broke. In the days before plastic bottles, the town dump was the breakable target center of the world. Light bulbs were the best and colored Christmas tree bulbs the best of all. The pop of a bulb recorded a hit with gratifying decisiveness. To do a light bulb justice, to make the moment last, we had to back off a bit. Under twenty paces it was too easy and over too fast. Of course, nothing popped better than a vacuum radio tube. They were delicacies to be savored.

Glass bottles weren't so satisfying. They were harder to break; sometimes they only cracked or deflected the B.B altogether, but there were lots more of them. To today's bottle collectors, they are cobalt, amber, milk and ruby glass. To us they were Bromo Selzer, beer, cold cream and knickknacks. We naturally preferred the colored glass and went out of our way to break the pretty ones first.

There were ringing, dinging things too: condensed milk cans rang like a bell, tin beers dinked, and Log Cabin Syrup cans—they were something special. Dumps were the only places where we could build a fire and not get in trouble for it. A settlement of Log Cabin cans engulfed in smoke could conjure up a lot of desperate settlers and hostile Indians.

Dumps had a variety of game. For thrills and challenge, rats were hard to beat. They were nearly unattainable trophies. Although we were sure we killed a lot of them, we never recovered a carcass. They always ran down a hole to die or fell over an insurmountable precipice at the moment of death. Mice were attainable but elusive. The patience to wait them out, not moving for hours, might bring a shot and most often a miss. Starlings were out of the question. They knew when to fly and how long to stay away. Although his city cousins were easy marks, the starling who hung around the dump was a real challenge—ample testimony, we thought, to the benefits of country as opposed to urban living. Sparrows were moderately tough. Some were alert and others were stupid. A sparrow wasn't much of a scalplock but we won a lot of them. We couldn't bounty them in my home town, but we always heard about the Kansas paradise where boys with B.B guns got rich and famous by protecting the townfolk from sparrow bombs.

Chipmunks, red squirrels and ground squirrels posed a special problem. Outside the dump they were forbidden game. Parents insisted on that. Even if they hadn't, chipmunks were too innocent, too clean, and too friendly to shoot. But in the dump they lost their luster and descended to rodent-hood. Yet I don't recall ever shooting one without feeling that I had somehow overstepped my bounds.

Dump dogs and cats were fair game. Sunken-eyed, droopy headed, and hang tailed, they were scary creatures. Every time I saw one I would think of my dad's stories of his boyhood in the Northern Michigan wilds. He used to say that on his snowshoe trips into town he never saw a wolf following him but he always saw their tracks in his as he returned. I loved his stories about eyes glowing in the dark outside the campfire circles. Wolves, he said, wouldn't attack a man unless he was helpless; they simply stood around trying to scare people into cardiac arrest. Dump dogs were like that. They had a special way of looking at you out of the sides of their eyes as if waiting for some mishap to befall you so they could go straight for your throat. We dusted them off every chance we got.

But for the most part, dumps were friendly places. Recognizing familiar junk from previous trips gave the place stability. Grownup disdain for dumps made it a private hunting ground free from adult intrusion. We didn't break everything: some of it was treasure, stuff too valuable to break; stuff we could take home for our mothers to put in the garbage to be taken back to the dump. Maybe that's why dumps were so great; they were the antithesis of home, a total reversal of values. Broken glass at home was always bad; fires were worse. An afternoon of smashing and burning things sort of evened the score.

Plastic bottles, aluminum cans, and long hauling trucks forecast the end of the dump galleries. Trenching, burning, poisons—and most of all resident dump superintendents—ended it.

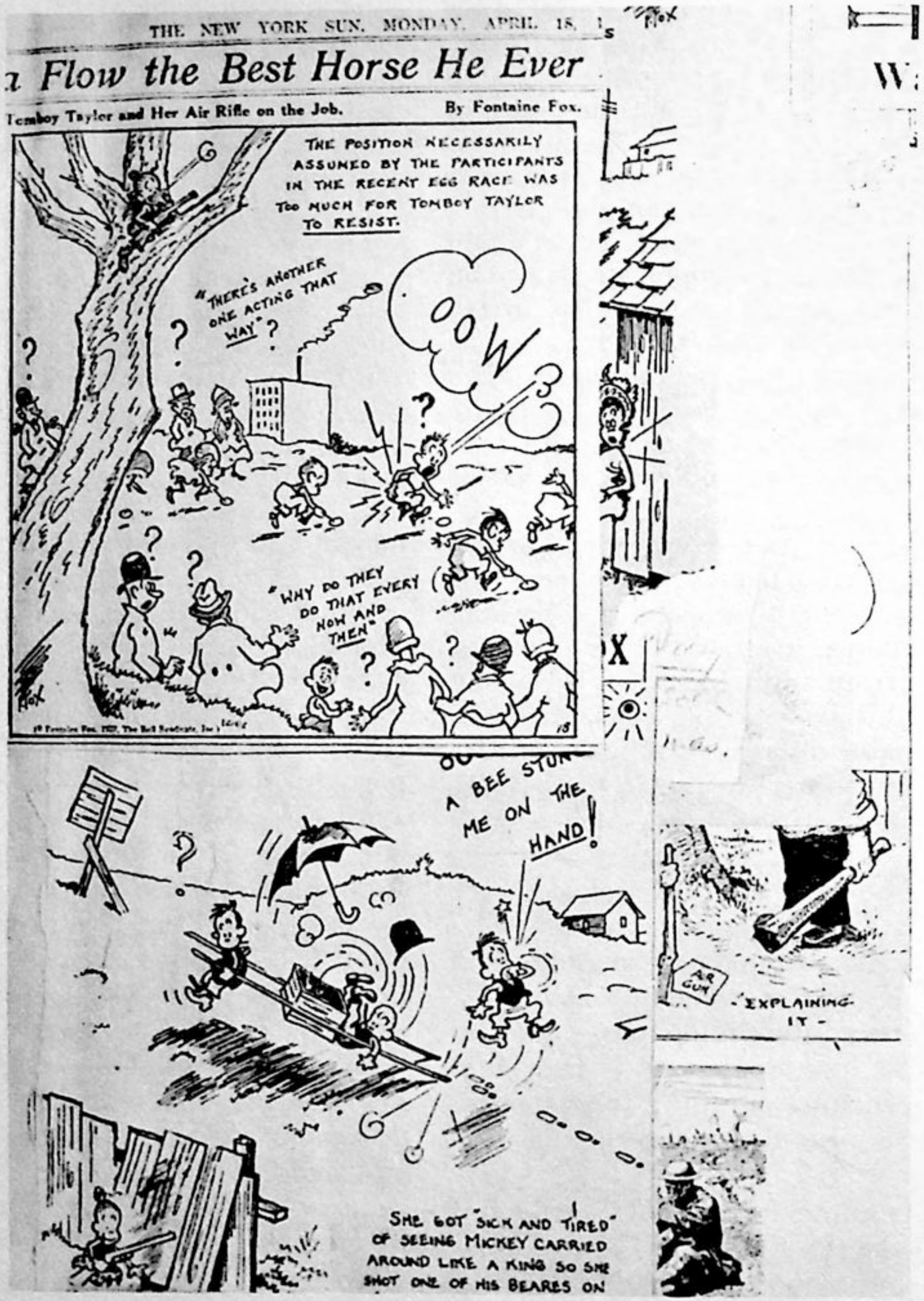
If stupidity knows favorites, it must be B.B gun boys. Take the Evar's Cat Caper, for example. My cousin and I set a .00 Victor jump trap for woodchucks at the base of a hollow tree. As descendents of a long line of Scandinavian fishermen, we set the trap with the obvious bait: Lake Michigan whitefish heads. The following morning we checked the trap and found to our surprise that we had caught one very large and very angry housecat. After carefully surveying the situation we came to the only two possible conclusions. (1) It was a wild cat. Why? Because it was in a trap. Who ever saw a tame cat in a trap? (2) It was a chicken-stealing cat. Why? Because any cat caught trying to eat fish heads intended for woodchucks would stoop to stealing chickens intended for people. Clearly, there was but one thing to do—dispatch it. To our enduring guilt, we did it with a B.B gun.

From the vantage point of adulthood, it appears grotesque and horrible. But what a small price to pay for the never to be forgotten lesson that being undergunned for any game inflicts pain and suffering on hunter and hunted alike, and that to shoot without thinking is an invitation to tragedy.

More commonly, stupidity took the form of shooting at each other. B.B gun wars were modeled after Saturday afternoon western movies. Any unoccupied piece of ground was a good site for a range war. We dusted each other off with abandon for the right to cross a predetermined line or occupy a furniture crate fort. The only rule was against shooting at people's heads. That nobody I knew ever got shot in the eye is probably a better testimonial to Providence than marksmanship.

Another stupid thing we had to do regularly was check the amount and force of the air coming out of the shot tube. An empty gun was cocked and fired against the palm of a hand. When I entered Boy Scouts I was fortunate enough to have a leader who carried evidence of the folly of such activities under the skin of his palm. Showing us the lump in the center of his hand, he reminded us that B.Bs can get stuck in the gun and come out anywhere between the second or the hundredth firing. Feeling the B.B under his skin turned us into instant believers.

More than one B.B-gun-toting boy made believers out of bad guys by planting a B.B in the right spot. About the same time that Charles Austin foiled the bank robber in Detroit, another 12 year old in Chicago knocked down a fleeing bandit running ahead of a posse, by shooting him in the leg with a well-aimed B.B. Although manufacturers never capitalized on such incidents, their occurrence contributed to the secure feeling enjoyed by every boy who carried a B.B gun through unfamiliar territory.


THE NEW YORK SUN, MONDAY, APRIL 18,
a Flow the Best Horse He Ever
Tomboy Taylor and Her Air Rifle on the Job.
By Fontaine Fox.
THE POSITION NECESSARILY ASSUMED BY THE PARTICIPANTS IN THE RECENT EGG RACE WAS TOO MUCH FOR TOMBOY TAYLOR TO RESIST.
"THERE'S ANOTHER ONE ACTING THAT WAY"?
OOW
"WHY DO THEY DO THAT EVERY NOW AND THEN"
FOX
A BEE STUNG ME ON THE HAND!
SHE GOT "SICK AND TIRED" OF SEEING MICKEY CARRIED AROUND LIKE A KING SO SHE SHOT ONE OF HIS BEARERS ON
AIR GUN
- EXPLAINING IT -

Like any other institution during the twenties, B.B guns came in for their share of humorous and political cartoons.

We weren't born wanting to own a B.B gun, although sometimes it seemed that way. We were taught. A lot of teaching was done by older boys. Hanging around the fringes of their fun, we longed for the day when we could share the independence and freedom they enjoyed. Symbolic of their higher status was the B.B gun. Once in a while we could beg a shot if they were in a magnanimous mood. Sometimes we could buy a shot; occasionally we could even rent a gun. More often than not they ran us off like a bunch of scared rabbits.

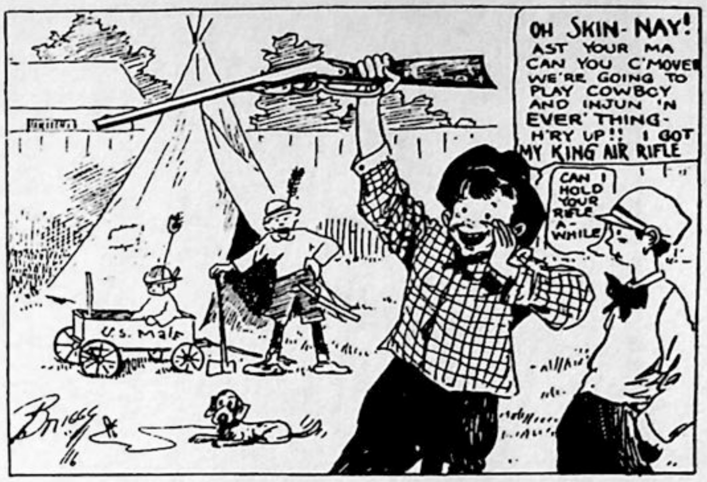
Not having a B.B gun could hurt in lots of ways. Once while I watched a bunch of big boys shooting, one of them gave me that jerk of his head that meant, "Commeer, kid." I commeered. "Want to shoot my gun?" he offered. I knew there was something wrong, but I wanted. "If you cock the lever all the way it'll kick too hard," he said, and directed me to take hold of the gun with the lever cocked but hanging down. "Go ahead," he said. I hesitated. "What's the matter? You chicken?" he jeered. Everybody looked at me and I slowly pulled the trigger. Every time I think of it I can feel the unbelievable pain as that lever cracked upward across the back of my fingers. I got away from there before I cried, but not before they laughed.

Little boys never had names. It was always, "Beat it, kid; Commeer, kid; Gowan home, kid." Getting a B.B gun meant getting a name, maybe even a nickname. Then it was, "Beat it, Skinny; Commeer, Skinny; Gowan home, Skinny." A long way from acceptance, but familiarity could lead to toleration and that was half the battle. Without a B.B gun, it was almost impossible.

Once big boyship was attained, there were still heights to scale. Magazines, comic books, radio and movies provided plenty of gun toting adult models to emulate. The association of heroes with guns was not overlooked by the manufacturers of B.B guns. Some were not even subtle. B.B gun names were chosen with an obvious intent to associate the gun with persons or characteristics appealing to boys. Most of them, like the PRINCE, ATLAS, MAGIC, DEWEY, VICTORY, DANDY, and BULLSEYE were shortlived turn-of-the-century models.

The guns most of us remember were the DAISYS. Daisy was advertising as early as 1895 with a budget of $2000. By 1900, the budget had increased to $20,000. Daisy's theme was always the same: while mentioning low cost, reliability, and accuracy, Daisy stressed the impact of the product on the boy.

It didn't matter much who said it—John Philip Sousa, Walter Hagen, Bob Zuppke, Jack Holt, Buck Jones, or the venerable Old Scout—the message was always the same: "The boy who aims straight usually hits the target, not only in the field but in everything he undertakes in life."

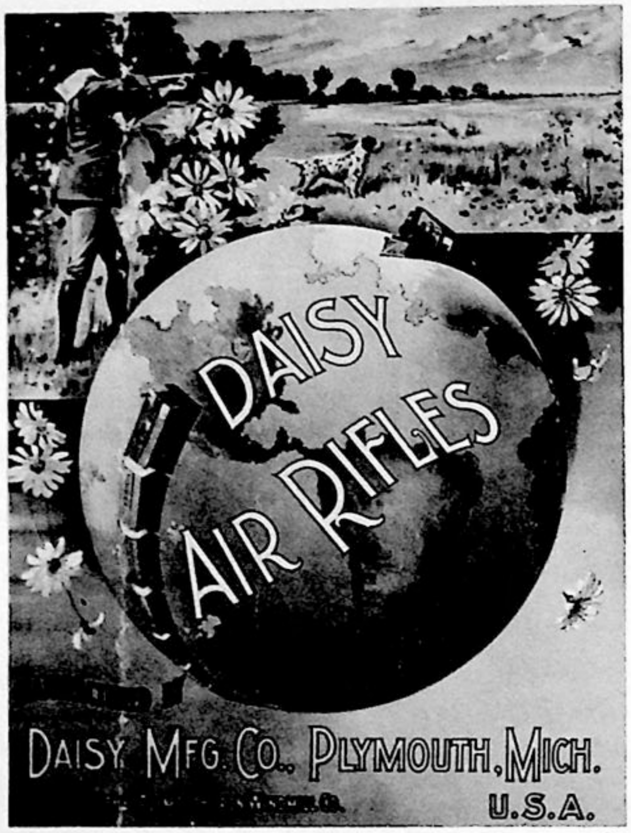

OH SKIN-NAY! AST YOUR MA CAN YOU C'MOVE WE'RE GOING TO PLAY COWBOY AND INJUN 'N EVER'THING- H'RY UP!! I GOT MY KING AIR RIFLE
CAN I HOLD YOUR RIFLE A-WHILE
U.S. Mail
Briggs

The only thing that hurt worse than not owning a B.B gun was being around kids who did.

There was more than a hint of patriotism associated with owning a B.B gun. Daisy advertisements dealt with the Bill of Rights, the Alamo, the Kentucky wilderness, the Wild West, and two world wars. They produced both a WWI and WWII model: the Military Model 40 and the Defender, complete with bayonets and slings.

But shooting straight and becoming a straight shooter were by far Daisy's favorite themes. They never advertised their guns for shooting anything but paper. Everybody shot a few B.Bs at other things, but Daisy never had to defend its products. It was a positive, healthy and dignified approach to shooting and it worked. By controlling power and velocity carefully, Daisys were always kept in the toy gun category—trainers for real guns—a pleasant limbo out of sight of popguns and within reach of firearms.

Everyone got his B.B gun in the same way. Details varied, but the three step procedure was almost inviolate. Step one was to win acceptance for the idea of owning a B.B gun. The second step was to assemble the where-


DAISY
AIR RIFLES
DAISY MFG. CO., PLYMOUTH, MICH.
U.S.A.

First Daisy advertising appropriation of $2,000.00 in 1895 was used for store window posters. A regular portion of sale's revenues has been channeled into advertising ever since.

withal to acquire one. Thirdly, once obtained, the gun had to be kept. Each was difficult in its own way.

Standing tall in the way of getting a B.B gun stood mothers. Whatever it is in a female that abhors guns, it gets worse with motherhood. Motherhood loves B.B guns like it loves firecrackers, matches, jack knives, corn silk cigarettes, and bare butt swimming. Left solely to mothers, B.B guns would vanish from the earth.

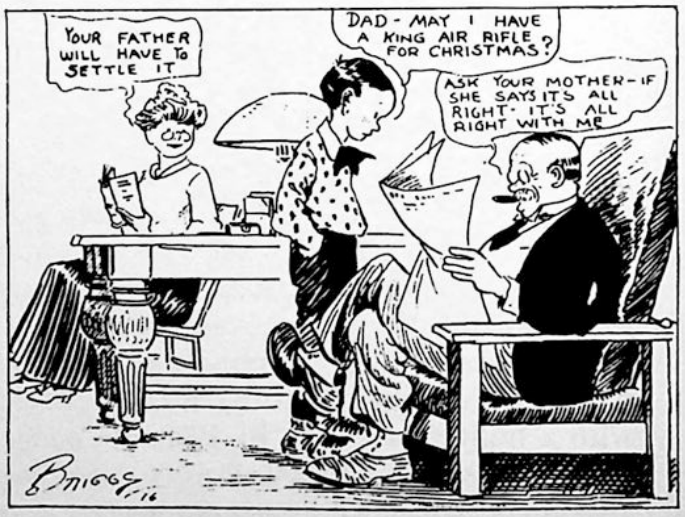
Fathers on the other hand are pushovers. Everything fathers had or didn't have as boys they want for their own boys. Unfortunately, for someone to attain fatherhood also requires that someone else must attain motherhood. It is a situation which at its best calls for compromise.

Compromise to most of us was a series of *ifs*: *if* we could demonstrate that we were responsible enough, *if* we could then get the money, *if* we could then maintain the trust, then we could have a B.B gun.

Luckily, we had some skillful persuaders on our side. Left in our hands, most of us would have botched the persuasion job; we would have begged and cried too much (a sure sign of immaturity) and thus proven our unfitness. But just as the manufacturers of B.B guns were skilled in selling their products to us, they were even more skilled in selling them to our parents.

I can distinctly remember leaving Daisy's highly appealing advertisements on comic book backs in prominent locations around the house where my parents would encounter them. Daisy even formalized that gambit by providing boys with Birthday Reminders; a kind of fill-in-the-blank form letter to be sent to members of the family telling them what gun at what price their son wanted. As the Old Scout said from his advertising spot, "Your Folks'll never know you want a gun unless you tell'm."

No matter what a parent's interests or inclinations, Daisy had an ad to appeal to them. If they were honest, forthright and hardworking pioneer types, cowboy star Jack Holt


YOUR FATHER WILL HAVE TO SETTLE IT
DAD - MAY I HAVE A KING AIR RIFLE FOR CHRISTMAS?
ASK YOUR MOTHER - IF SHE SAYS IT'S ALL RIGHT - IT'S ALL RIGHT WITH ME
Briggs 1-16

Letting a boy have a B.B gun was seldom a quick decision; mom and dad had to agree between themselves first and that could take a long time.

could get them. If they were athletically inclined and had similar aspirations for their sons, Illinois football coach Zuppke could get them.

Rifle shooting puts a premium on concentration, quick thinking, training of the eye, and accuracy, which will be valuable to boys when they engage in other forms of sport.

If they were of a more artistic sort, messages from such men as John Philip Sousa could be counted on to demonstrate that a B.B gun and a marching band were not contradictory.

Keep up your target shooting — train your eye, mind, and muscles to the speed necessary to hit the bull's eye—and you'll soon notice the difference it makes in your other athletic activities. Speed is what you want—and rifle practice teaches you to see and think fast! . . .

For parents steeped in our Frontier and Christian heritage, Daisy supplied such examples as Daniel Boone, Davy Crockett, and David of Syria. They were individual examples of what had earlier been a fictionalized character, the Old Scout. The Old Scout was a hard liner for truth, courage, standing tall, and the whole wonderful concept of the straight shooter. He was also known to mention Daisy a time or two.

You don't have to leave home to learn to shoot. And there are just as many boys today in the East as in the West who have practiced with their Daisy Air Rifles until they are mighty fine marksmen.
And the big object in life ain't to kill Injuns, but to make keen straight shootin and straight thinkin men out of yourselves.

Maybe we were a little more cornball in those days than now. But so were our parents. If appeals to pioneer hardiness or athletic prowess or right thinking didn't get them, the suggestion of father-son companionship would. Golfing's Hagens were depicted as a father and son team both on and off the links.

. . . when I got my first Daisy, he taught me how to shoot straight and handle it carefully and safely. That's the way it was with us—ever since I was knee high to a niblick, Dad and I have been "just like that"—real pals. . .

Daisy not only dominated such juvenile media as comic books and magazines, but also bought space in periodicals intended for adults: Liberty, Colliers, Saturday Evening Post, Literary Digest and others. With all that going for boys and a little patience, most were able to win parental permission, if only grudging, to own a B.B gun.

There were only two ways to get the money for B.B guns: steal it or earn it. Aside from the moral problem, stealing was not very feasible. In most American homes of those times, there wasn't enough money laying around loose to buy a B.B gun in the first place. Not that anyone went without necessities; there were just more necessities than wherewithal. So B.B gun money had to be earned.

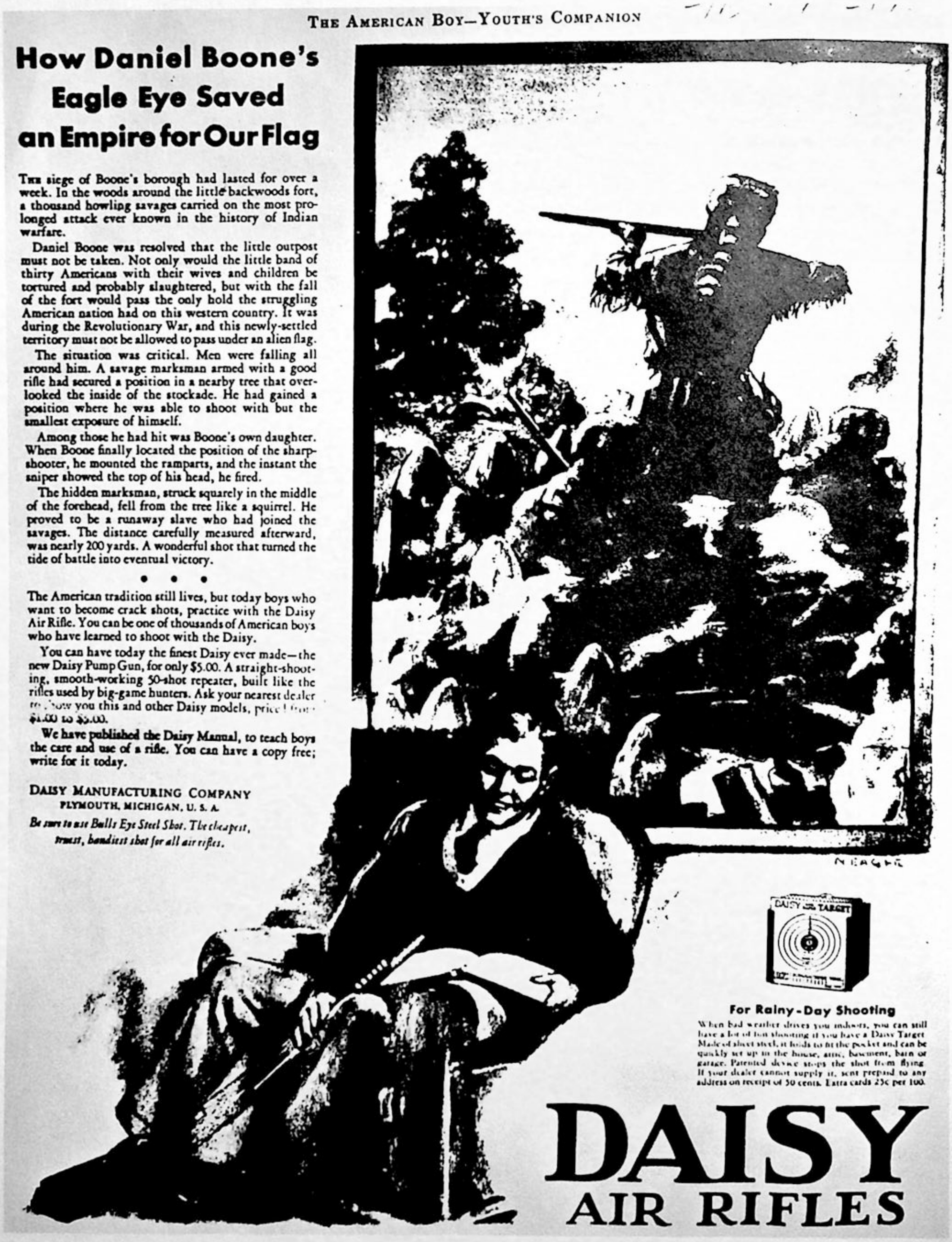
We lived in the days of neighborhoods, with twenty houses to the block. They provided an employment potential for boys that is not so common today.

Before home heating oil or natural gas, there were always stoves and furnaces to tend, wood to split, and ashes or clinkers to haul. People used to say how lucky I was to be born in the coal stoker era—splitting wood was supposed to have been real work. But filling the stoker with coal, prying clinkers out of the fire box, putting them in buckets and carrying them out to the alley was no picnic either.

Houses had concrete too: a fifty foot stretch of public sidewalk in front, a shorter narrow sidewalk up to the front porch, a set of front steps and sometimes a side driveway. When ever the snow fell, a city block had an earning potential of ten or fifteen dollars. Early in the day, when the snow was cold and fluffy, it was easy shoveling. Wait too long and it got thaw heavy and foot packed, and no amount of money was worth touching it.

The trick was to shovel fast and move on to the next job. New sidewalks with unbroken concrete were easy money. Older, cracked ones were murder. Nothing banged

Early ads for Daisy rifles.



THE AMERICAN BOY—YOUTH'S COMPANION

How Daniel Boone's Eagle Eye Saved an Empire for Our Flag

THE siege of Boone's borough had lasted for over a week. In the woods around the little backwoods fort, a thousand howling savages carried on the most prolonged attack ever known in the history of Indian warfare.

Daniel Boone was resolved that the little outpost must not be taken. Not only would the little band of thirty Americans with their wives and children be tortured and probably slaughtered, but with the fall of the fort would pass the only hold the struggling American nation had on this western country. It was during the Revolutionary War, and this newly-settled territory must not be allowed to pass under an alien flag.

The situation was critical. Men were falling all around him. A savage marksman armed with a good rifle had secured a position in a nearby tree that overlooked the inside of the stockade. He had gained a position where he was able to shoot with but the smallest exposure of himself.

Among those he had hit was Boone's own daughter. When Boone finally located the position of the sharpshooter, he mounted the ramparts, and the instant the sniper showed the top of his head, he fired.

The hidden marksman, struck squarely in the middle of the forehead, fell from the tree like a squirrel. He proved to be a runaway slave who had joined the savages. The distance carefully measured afterward, was nearly 200 yards. A wonderful shot that turned the tide of battle into eventual victory.

• • •

The American tradition still lives, but today boys who want to become crack shots, practice with the Daisy Air Rifle. You can be one of thousands of American boys who have learned to shoot with the Daisy.

You can have today the finest Daisy ever made—the new Daisy Pump Gun, for only $5.00. A straight-shooting, smooth-working 50-shot repeater, built like the rifles used by big-game hunters. Ask your nearest dealer to show you this and other Daisy models, priced from $1.00 to $5.00.

We have published the Daisy Manual, to teach boys the care and use of a rifle. You can have a copy free; write for it today.

DAISY MANUFACTURING COMPANY
PLYMOUTH, MICHIGAN, U. S. A.

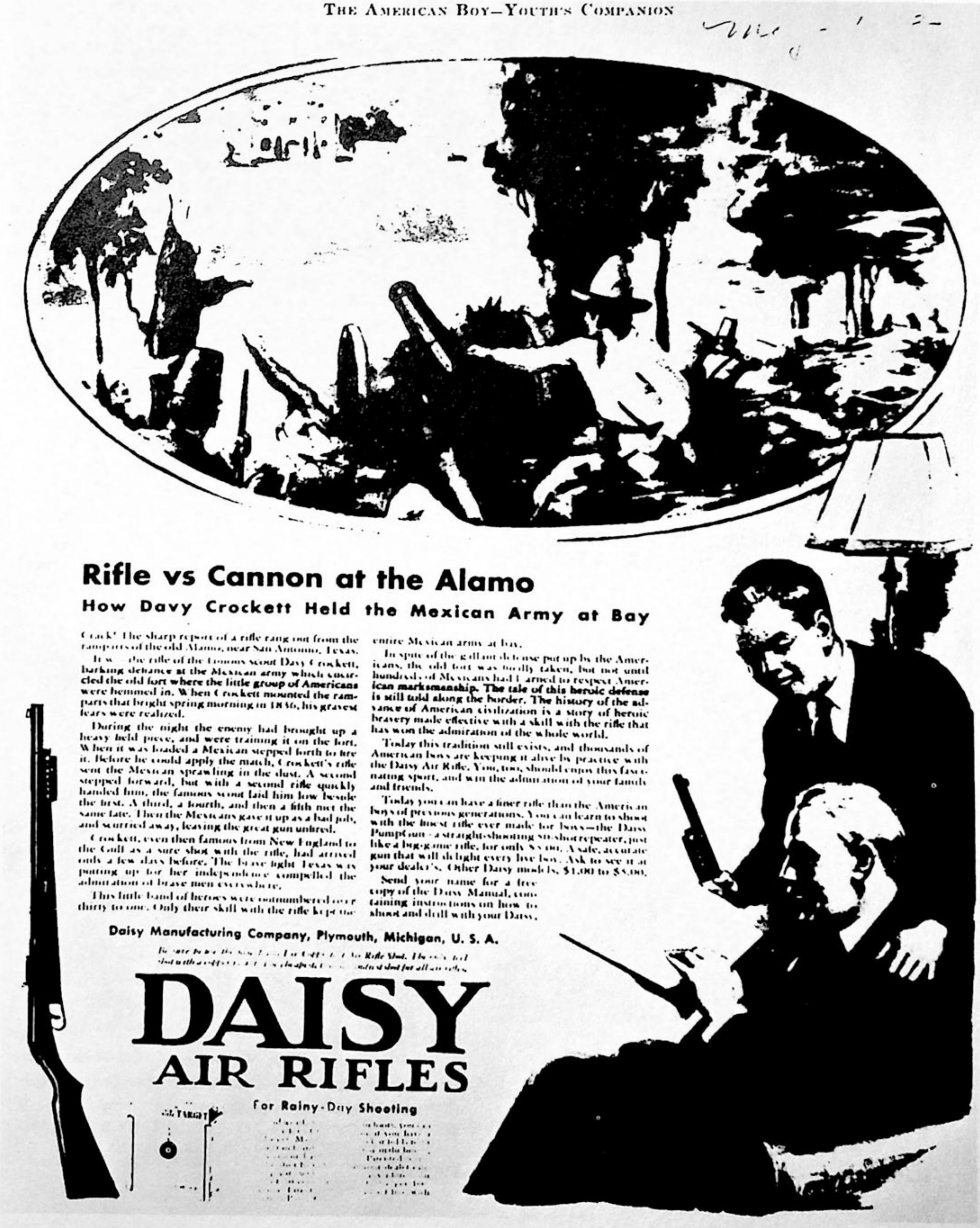
Be sure to use Bulls Eye Steel Shot. The cheapest, truest, handiest shot for all air rifles.

For Rainy-Day Shooting

When bad weather drives you indoors, you can still have a lot of fun shooting if you have a Daisy Target. Made of sheet steel, it folds to fit the pocket and can be quickly set up in the house, attic, basement, barn or garage. Patented device stops the shot from flying. If your dealer cannot supply it, sent prepaid to any address on receipt of 50 cents. Extra cards 25c per 100.

DAISY
AIR RIFLES

B.B GUNS WERE TO SLEEP NEAR



THE AMERICAN BOY—YOUTH'S COMPANION

Mar - 1 - [illegible]

Rifle vs Cannon at the Alamo

How Davy Crockett Held the Mexican Army at Bay

Crack! The sharp report of a rifle rang out from the ramparts of the old Alamo, near San Antonio, Texas.

It was the rifle of the famous scout Davy Crockett, barking defiance at the Mexican army which encircled the old fort where the little group of Americans were hemmed in. When Crockett mounted the ramparts that bright spring morning in 1836, his gravest fears were realized.

During the night the enemy had brought up a heavy field piece, and were training it on the fort. When it was loaded a Mexican stepped forth to fire it. Before he could apply the match, Crockett's rifle sent the Mexican sprawling in the dust. A second stepped forward, but with a second rifle quickly handed him, the famous scout laid him low beside the first. A third, a fourth, and then a fifth met the same fate. Then the Mexicans gave it up as a bad job, and scurried away, leaving the great gun unfired.

Crockett, even then famous from New England to the Gulf as a sure shot with the rifle, had arrived only a few days before. The brave fight Texas was putting up for her independence compelled the admiration of brave men everywhere.

This little band of heroes were outnumbered over thirty to one. Only their skill with the rifle kept the entire Mexican army at bay.

In spite of the gallant defense put up by the Americans, the old fort was finally taken, but not until hundreds of Mexicans had learned to respect American marksmanship. The tale of this heroic defense is still told along the border. The history of the advance of American civilization is a story of heroic bravery made effective with a skill with the rifle that has won the admiration of the whole world.

Today this tradition still exists, and thousands of American boys are keeping it alive by practice with the Daisy Air Rifle. You, too, should enjoy this fascinating sport, and win the admiration of your family and friends.

Today you can have a finer rifle than the American boys of previous generations. You can learn to shoot with the finest rifle ever made for boys—the Daisy Pump Gun—a straight-shooting 50-shot repeater, just like a big-game rifle, for only $5.00. A safe, accurate gun that will delight every live boy. Ask to see it at your dealer's. Other Daisy models, $1.00 to $5.00.

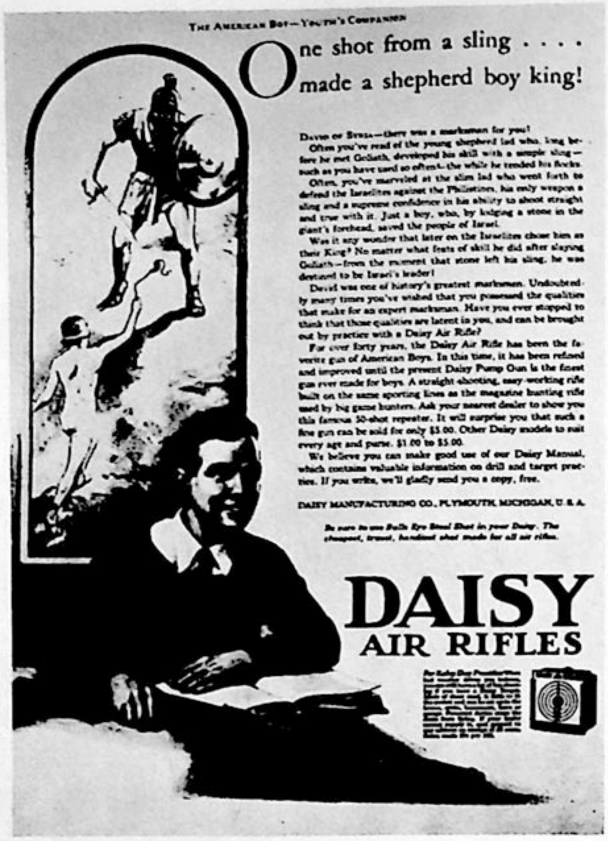
Send your name for a free copy of the Daisy Manual, containing instructions on how to shoot and drill with your Daisy.

Daisy Manufacturing Company, Plymouth, Michigan, U. S. A.

Be sure to see the new [illegible] Rifle Shot. [illegible] shot for all air rifles.

DAISY
AIR RIFLES

For Rainy-Day Shooting



THE AMERICAN BOY—YOUTH'S COMPANION

One shot from a sling . . . .
made a shepherd boy king!

DAVID OF [illegible]—there was a marksman for you!

Often you've read of the young shepherd lad who, long before he met Goliath, developed his skill with a simple sling—such as you have used so often—the while he tended his flocks.

Often, you've marveled at the slim lad who went forth to defend the Israelites against the Philistines, his only weapon a sling and a supreme confidence in his ability to shoot straight and true with it. Just a boy, who, by lodging a stone in the giant's forehead, saved the people of Israel.

Was it any wonder that later on the Israelites chose him as their King? No matter what feats of skill he did after slaying Goliath—from the moment that stone left his sling, he was destined to be Israel's leader!

David was one of history's greatest marksmen. Undoubtedly many times you've wished that you possessed the qualities that make for an expert marksman. Have you ever stopped to think that those qualities are latent in you, and can be brought out by practice with a Daisy Air Rifle?

For over forty years, the Daisy Air Rifle has been the favorite gun of American Boys. In this time, it has been refined and improved until the present Daisy Pump Gun is the finest gun ever made for boys. A straight-shooting, easy-working rifle built on the same sporting lines as the magazine hunting rifle used by big game hunters. Ask your nearest dealer to show you this famous 50-shot repeater. It will surprise you that such a fine gun can be sold for only $5.00. Other Daisy models to suit every age and purse, $1.00 to $5.00.

We believe you can make good use of our Daisy Manual, which contains valuable information on drill and target practice. If you write, we'll gladly send you a copy, free.

DAISY MANUFACTURING CO., PLYMOUTH, MICHIGAN, U. S. A.

Be sure to use Bulls Eye Steel Shot in your Daisy. The cheapest, truest, handiest shot made for all air rifles.

DAISY
AIR RIFLES

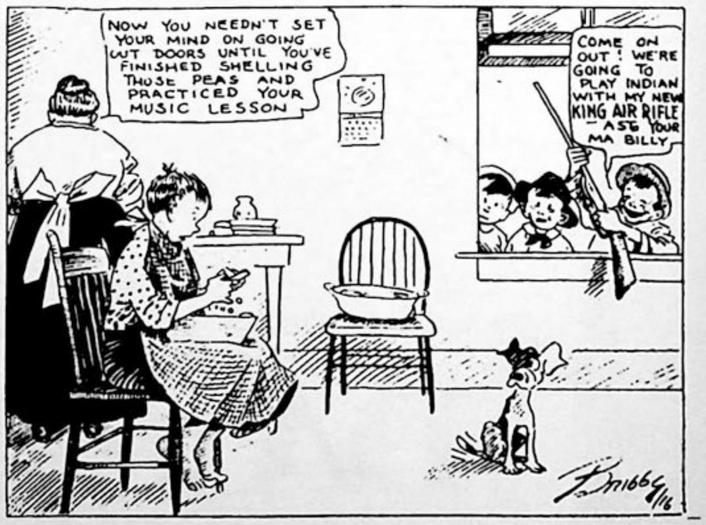
cold bones together harder than catching a big sidewalk crack midway through a fast swipe with a snow shovel. It was like sticking a dinner fork into an electric socket.

The rule was that nobody ever got paid for shoveling his own sidewalk. That was chores. Do that first and the rest could be done for money. It worked the same way with lawnmowing.

Mowing lawns was worth about the same as shoveling snow. The best thing to do was line up a string of customers and make regular rounds for steady money. The bigger boys usually had those deals all sewed up. Little boys beat the pavement from house to house looking for occasional customers. It was as much work to push a cast iron wheeled lawnmower from house to house as it was to mow the lawn. I tried to talk my dad into buying a power mower, but he never could understand the economic soundness of a 75 dollar investment to earn a 2 dollar B.B gun. I figured he'd never amount to much.

Spring and fall were storm window times. It didn't matter whether they were being put up or taken down, the routine was the same. Haul 'em and wash 'em. Washing was the worst part of the job because people were always overly optimistic about the weather. They waited until the last possible moment in the fall, usually the first snow, and the wash water froze and made a mess of the whole job. Then they wanted them taken down and washed in the spring on the first sunshiney day even though the temperature was still below freezing.

Nobody ever had a ladder that was suited to the job. I asked one man before I started if he had an extension ladder. He said he didn't think so, but he had a Montgomery Ward ladder. I didn't think that was nearly as funny as he did. At one house, the top of the ladder would not even come to the second story window sills. I would climb the ladder, pushing the window up ahead of me, get the top of the frame into the bottom of the sash and push it up into place, latching the bottom two latches only. I couldn't reach the top ones. I don't know to this day how those


NOW YOU NEEDN'T SET YOUR MIND ON GOING OUT DOORS UNTIL YOU'VE FINISHED SHELLING THOSE PEAS AND PRACTICED YOUR MUSIC LESSON
COME ON OUT! WE'RE GOING TO PLAY INDIAN WITH MY NEW KING AIR RIFLE — ASK YOUR MA BILLY

A mother's confident prediction that boys who didn't have chores to do would grow up to be worthless men was no comfort to a boy who had to stay home while his friends went adventuring.

windows stayed in through the winter—maybe they didn't.

The best houses to work had both the window and the sill marked with matching numbered metal tacks. Getting the right window in the right place was easy. But most people never bothered with anything like that. Windows were put up wherever they fit, and then the last few were switched around until they came out even. A little wood shaved off here and there with a jack knife speeded things up. After a few seasons, every storm window fit everything in the house, give or take a couple inches all around.

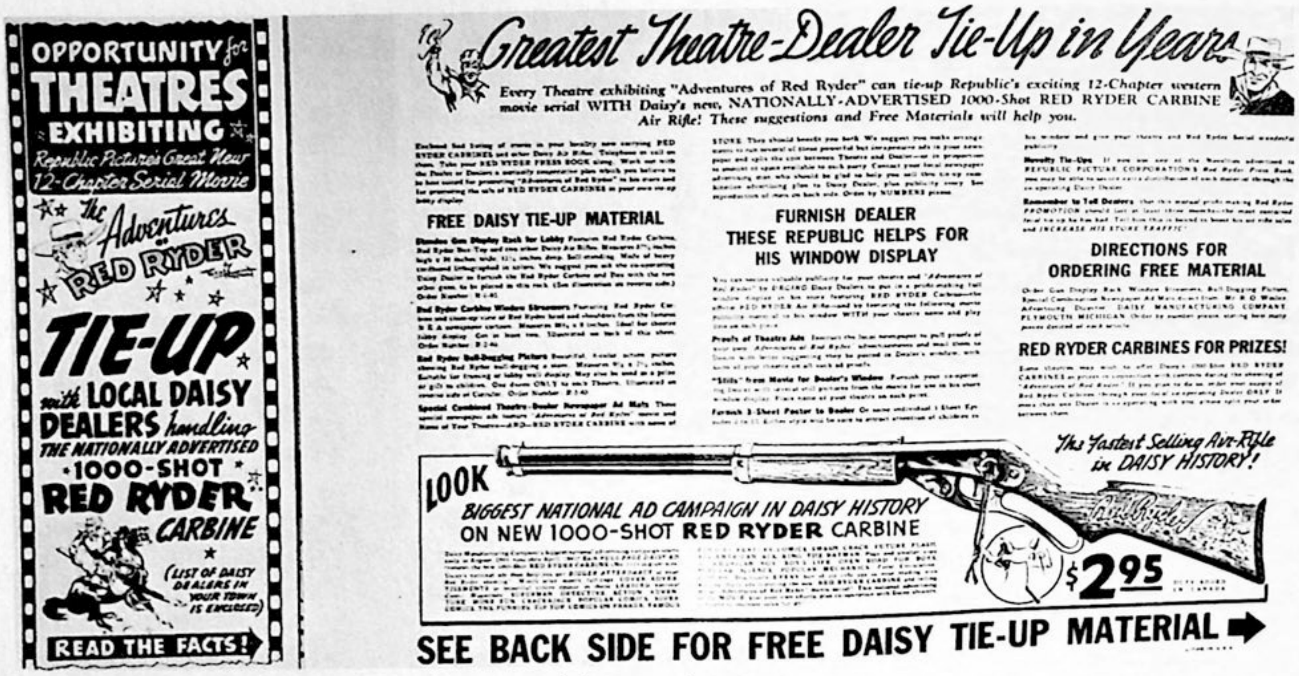
With all those jobs the pay was small. Money accumulated at an agonizingly slow rate and there was plenty of demand for it. I got so I didn't like to have birthday parties—every gift received meant another to be given. The school had a lot of ways to take away money too. They were always collecting for something—stamps to be saved up for Liberty Bonds, March of Dimes cards with rows and rows of coin slots, and Red Cross boxes to be filled with things for soldiers overseas. Penny candy was a constant hazard. Five marshmallow peanuts for a penny or two, licorice pipes with curved stems were hard to resist. But punchboards were my undoing. Nickel punchboards weren't so bad—they offered a piece of candy and a chance to win a big chocolate rabbit. The bad ones were the quarter punchboards that offered merchandise. I always bought chances on the ones that offered B.B guns or .22 rifles for prizes. The only thing I ever won was a skull ring with genuine synthetic ruby eyes and a polished golden finish.

I finally figured out that the only guy who won with punchboards was the guy selling the chances. Through a friend I managed to get a punchboard that offered a Daisy Lightning Loader Carbine as first prize. My idea was to break the winning number seal first, wait until most of the chances were sold and then buy out the few remaining chances at less than the cost of the rifle, thus making some money and winning the B.B gun too. It couldn't miss. Except I confided in a friend, who confided in a friend, who confided and so forth. Soon the whole world knew the winning number and stood around watching every time I sold a chance. More precisely, they stood around until the fifth customer punched out the winning number and I was out of business. By the time I paid for the remaining chances so the winner could get his prize, I was not only broke, I was in debt. It was back to lawnmowers and storm windows for Big Deal Dunathan.

My goal was the price of a Red Ryder Carbine—$2.95. Keeping careful track of my progress, I counted, recounted, and counted again: put the money in piles, ten-penny piles, two-nickel piles, dimes alone—ten piles to the dollar; counted the piles till my hands smelled coppery, and then wrote the total down on a piece of paper and wrapped it all up and put it away; then counted it again the next day—maybe it had grown since yesterday. Finally it came to enough.

I've bought a lot of things since that B.B gun, but nothing ever played so completely on all my senses as that one. It was a Saturday morning when the hardware store called to say they had finally gotten a shipment of Daisys. I had to wait until noon when my dad came home from work before I could go downtown. I must have counted my money a hundred times waiting.

In the dim light of the store I could smell new nails and make out the wood grain embossed through the linoleum rugs nailed randomly over the board floors. Back of the counter were floor to ceiling bins reached from a wheeled ladder that tracked across the wall. There was a man on the ladder. He knew what we were there for. Coming down, he reached under the counter and took out a long, thin box. Wordlessly, he put it on the counter and opened it to reveal a brand new Red Ryder Carbine. It was in 1946, and I had never seen a Red Ryder B.B gun outside of Daisy's advertisements. The gun was more beautiful than I had imagined. "If you want it," he said unnecessarily, "you'd better take it. I've only got six and there's a long waiting list." All the way home I kept my hand in the



OPPORTUNITY *for* THEATRES EXHIBITING *Republic Pictures Great New 12-Chapter Serial Movie* *The Adventures of* RED RYDER

TIE-UP *with* LOCAL DAISY DEALERS *handling* *THE NATIONALLY ADVERTISED* 1000-SHOT RED RYDER CARBINE

(LIST OF DAISY DEALERS IN YOUR TOWN IS ENCLOSED)

READ THE FACTS!

Greatest Theatre-Dealer Tie-Up in Years

Every Theatre exhibiting "Adventures of Red Ryder" can tie-up Republic's exciting 12-Chapter western movie serial WITH Daisy's new, NATIONALLY-ADVERTISED *1000-Shot* RED RYDER CARBINE *Air Rifle! These suggestions and Free Materials will help you.*

FREE DAISY TIE-UP MATERIAL

FURNISH DEALER THESE REPUBLIC HELPS FOR HIS WINDOW DISPLAY

DIRECTIONS FOR ORDERING FREE MATERIAL

RED RYDER CARBINES FOR PRIZES!

The Fastest Selling Air-Rifle in DAISY HISTORY!

LOOK

BIGGEST NATIONAL AD CAMPAIGN IN DAISY HISTORY

ON NEW 1000-SHOT **RED RYDER** CARBINE

$2.95

SEE BACK SIDE FOR FREE DAISY TIE-UP MATERIAL

Daisy B.B gun and theater tie-ups were a popular Hough promotional technique with BUZZ BARTON, BUCK JONES and RED RYDER B.B guns during the late thirties. Co-sponsored by local hardware stores and movie houses, these events offered a chance to win a free air rifle.

box just to make sure the gun didn't go anywhere. For the next three years it was seldom out of reach.

Getting into trouble with B.B guns wasn't difficult. No one even had to try. Every time a B.B gun was taken outside there was a chance it would be taken away. Then as now there were lots of people willing to call the police at the sign of a B.B gun. Most of the time the police were kind and simply warned boys to do their shooting in some other place. But if something unfortunate had happened, like a broken garage window, the police weren't so sympathetic. If we were seen in that neighborhood, we could lose our guns. We even got blamed for breaking glass telephone insulators on the top of poles. Of course we couldn't explain why it couldn't have been done by a B.B gun because the only reason we knew that was by trying unsuccessfully to break them. I wonder whatever happened to that great pile of B.B guns we all knew the police had?

Things far less important than a broken window sometimes meant the less of a B.B gun; like the time I shot my sister. My sister was a very clumsy kid. She backed into one of my B.Bs one time and I was without a gun for six weeks. There has been some confusion about what actually happened. The record should be set straight. The way it really happened was that my sister and I were out in the field behind my grandfather's house when I took a shot at a passing crow, and by sheer coincidence the point of aim was about four feet over the head of my facing-the-other-way sister. At the precise instant that the B.B reached her she was taken by a small fit which caused her to leap high into the air placing her backside in the path of the B.B.

Such was the nature of her seizure that her mind went completely blank and she was never able to recall nor duplicate that leap. At any rate, the B.B's impact snapped her out of it and she ran crying toward the house, stopping only long enough to let me know she was, ". . . going to tell Dad." I would have greatly preferred that my dad were at work. I would have preferred that the sun would burn out and we would all freeze instantly.

To this day my father and sister insist that I did it deliberately. My mother suspects they're right.

Most B.B guns had one major drawback—they required absolutely no maintenance. They never broke down. This was discouraging to the inquiring hands and minds of most boys, and they had to invent elaborate pretend breakdowns in order to satisfy their curiosity. Separating a B.B gun from its stock was easy: one tang screw and cross bolt was all there was to it. But beyond dismounting the stock, taking out the trigger and lever, there wasn't much that could be done except oil them. They were oiled until they sloshed and smoked with every shot.

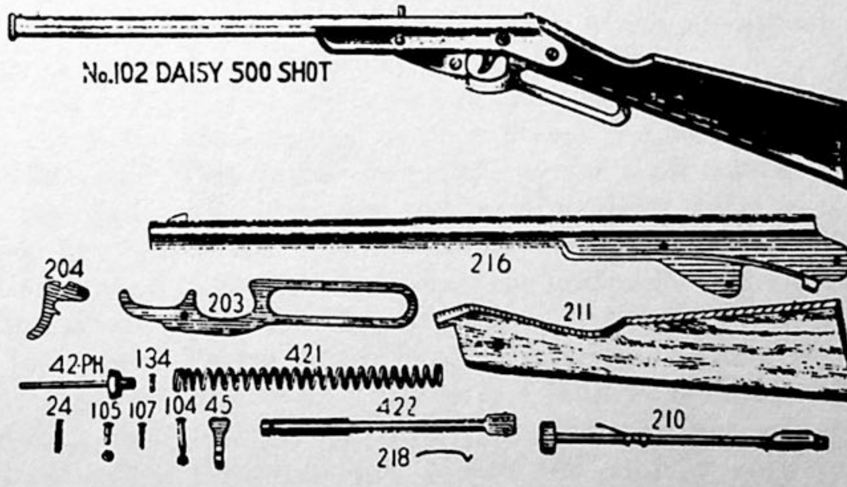
Removing the plunger was something I never mastered as a kid. Now that I know how, it is remarkably simple, yet ingeniously boy-proof. Maybe that's why so many specimens I have seen were crying on the outside but smiling on the inside after obvious neglect and abuse.

If gunsmithing was a disappointment, decoration was not. Notches to record significant kills adorned many stocks. Woodburning sets could decorate a stock much more dashingly than the simple Red Ryder brand the factory provided. I made branding irons out of bent wire, heated them on the stove and sunk my initials into stock and fore-end. Tacks applied Indian style made gawdy displays too. Even an iron-on transfer from a cereal box found its way onto my stock and all over the bottom of my mother's iron. Initials carved crudely into the stock with jack knives were favorite embellishments, keeping faith with the old warriors' tradition of marking arms for quick identification.

Repairs were most often done with anything at hand. Nobody it seemed, ever bothered to send away for the proper bolts and screws. Anything that would go through or into the stock was good enough. The two-inch flat headed wood screw that replaced my top tang screw on the Red Ryder looks bad now,

No. 102 DAISY 500 SHOT—*Model 36*

No. 216 Main Barrel
No. 210 Shooting Barrel
No. 211 Wood Stock
No. 104 Side Stock and Trigger Screw
No. 107 Top Stock Screw
No. 134 Plunger Hd. Rivet
No. 421 Main Spring
No. 45 Rear Sight
No. 218 Shot Retaining Spring
No. 203 Lever
No. 105 Lever Screw
No. 204 Trigger
No. 24 Trigger Spring
No. 422 Plunger
No. 42PH Plunger Head



Components of spring air B.B guns from 1890's to present are remarkably few and similar regardless of action type or manufacturer.

but at the time I thought it was a perfectly appropriate replacement. New stocks could be jig sawed out of packing boxes and many were, even if it said "Sunkist" where it should have said "Buzz Barton Special."

Now and then someone with a social psychological bent tries to define the B.B gun as a symbol of the transition from boy to man. A B.B gun is an object acquired, they say, when a boy is too old for play guns and yet needs some instruction before he can handle firearms. Perhaps to those who never owned one, and they are precious few, a B.B gun can be placed in such a prepubertic purgatory.

Happily, it is neither that academic nor that simple. A B.B gun is not an object at all. It is an experience—to be begged, borrowed, earned or stolen as early as possible; to be shot, tinkered and adventured with until outgrown; to be stored away and later discovered quite by accident; then to be fondled and, with a quick look to see no one is watching, cocked and shot amidst a rush of memories tinged with wishes that it could all be done again.

2

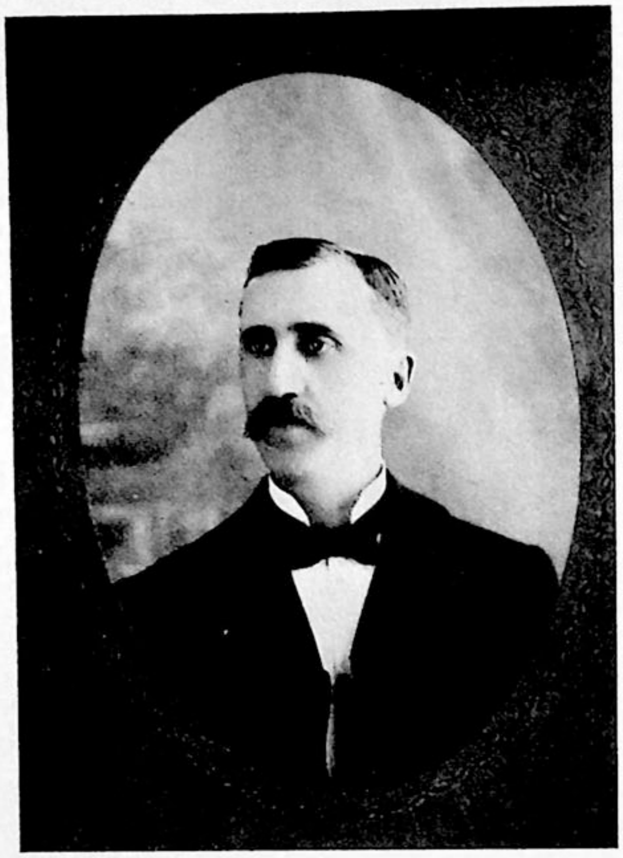
THE MARKHAM KING AIR RIFLES

The earliest Markham testing laboratory was composed of one man, a pile of guns and a Sears Roebuck Catalog. Penetration was measured in pages punctured. The Markham brag was that the competition had a tough time getting through chintz curtains, while the Kings *shot all the way through leathergoods.*

The Markham Air Rifle Company of Plymouth, Michigan, was established in July 1886, in a small two-story factory, the first ever built solely for the manufacture of toy air rifles. W. F. Markham, a local inventor, was president. Although he has been given credit for the invention of the first successful B.B gun, it is more likely that he was the gun's promoter and that the original design work was done by G. W. Sage. In any case, the first Markham B.B gun occupies an historical position similar to Samuel Colt's revolver. Colt did not invent the first revolver; he developed the first commercially successful one. Similarly, while the principles of spring air rifle design were well known and had been used in the manufacture of workable rifles, the combination of inexpensive materials, reduced velocity, and an easy method for cocking the plunger made the Markham CHALLENGER the first financially successful toy B.B gun.

The Challenger was a wooden affair that looked more like a club than a rifle. Production was begun in 1886, but patents were not applied for until May 1887. Earliest guns carry no marks at all, later guns are marked Patents Pending. Patent number 372,161 covering the first model Challenger was granted on October 25, 1887, after which time specimens were marked accordingly.

The first model of 1886 was a wooden full-stock hinged in the middle. The barrel broke downward after releasing the latch composed of a long wire rod running along the outside of the barrel. Pushing the barrel downward forced a wire rod on the underside of the barrel housing backward and *stretched* the spring which was located on the bottom portion of a "U" with the plunger head on the top. As the trigger was released, the spring recovered and pulled the plunger forward with it, compressing the air in its path and discharging the projectile from the seamless brass barrel (on later models, steel) inletted into the wooden fore-end. Although the pat-



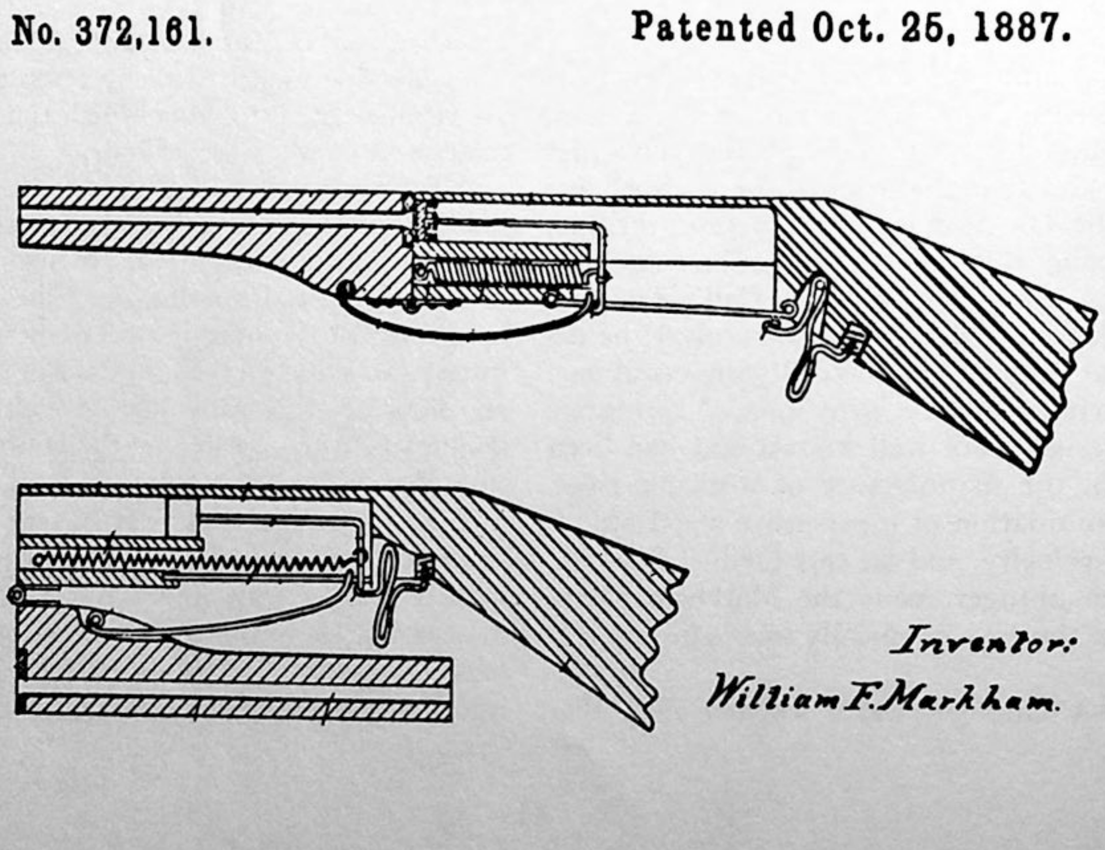
W. F. Markham, manufacturer and promoter of the CHALLENGER; in 1886, the first commercially successful B.B gun.

ent drawings show a trigger of folded wire, production triggers were iron.

The reverse action of the spring—that is, one which recovers from a stretched rather than compressed position, was novel. Most patents issued for plunger-type air guns utilized a prestretched spring that was compressed on cocking and sprang outward to drive the piston forward. Also novel was the fact that the spring was not wound around the piston shaft, but connected to it by an arm.

The Challenger had some advantages over previous and succeeding B.B guns. During cocking, the breech end of the barrel was exposed, making the removal of lead B.Bs, which were sure to become stuck in the barrel, a rather simple matter. The all wood frame, stock and fore-end made the arm clumsy but sturdy. The outside operating rods were easy to repair or replace.

On the other hand, the arm was not particularly accurate because of the loose cabinet-hinged center. The end of the plunger was unprotected during cocking, and many specimens the author has examined were missing the plunger heads and some were missing the spring. Also, the unsupported operating rod was pushed back to cock rather than pulled



which made it more likely to become bent. Still the gun was an immediate market success.

The number of first model Challengers manufactured was rather small. Woodworking is generally a slower process than metal working. An examination of the Challenger's construction shows a considerable number of detailed and rather complicated machine and hand operations necessary to complete the stock and frame. Moreover, specimens show that the work was carefully done and a good deal of attention paid to the inletting of the barrel and the finishing of apertures for the operating rods in the maple stock. It is unlikely that annual production in the two-story, 45 x 55 foot factory exceeded 5000 pieces.

In the early years, B.B guns manufactured by Markham were not marked with the company name. It appears that most of the guns were sold to Thorson & Cassady, a Chicago distributor for wholesale and retail. Some were no doubt sold to storeowners in the Chicago area for resale; others were sold directly to customers through advertisements in sporting magazines.

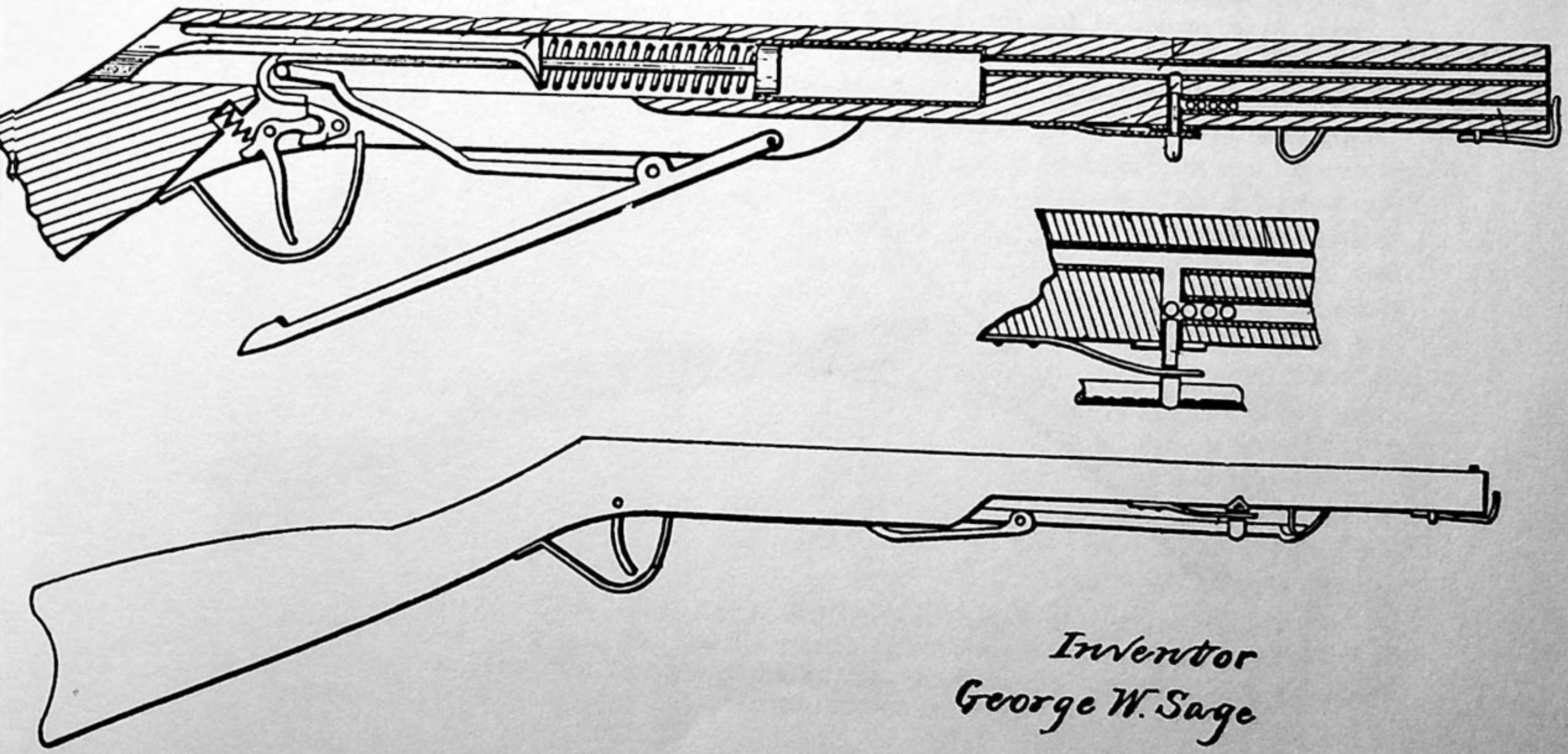
That marketing arrangement helps to explain the confusion regarding whether Markham's first rifle was the Chicago or the Challenger.

From an examination of museum specimens, available literature, and patents, it seems certain that the Challenger, which was hinged in the center, was the first of the Markham rifles, and the one produced in 1886.

An improved second model Challenger was introduced in 1887. It was the invention of G. W. Sage and used a traditional stretched spring in line with the bore. The spring coiled around the plunger shaft was compressed as the under-lever was pulled back and the rear of the plunger stem engaged the sear. When the trigger was released the spring uncoiled and thrust the plunger forward, compressing the air in its path and discharging the projectile.

Sage did not apply for his patent until

No. 477,385. **Patented June 21, 1892.**



April 1891, and it was granted in June 1892. Along with the under-lever design, Sage incorporated an automatic feed mechanism which placed one B.B into the chamber each time the lever was returned to its original position. As far as the author can tell, this repeating mechanism was never incorporated into production specimens of the 1887 Challenger.

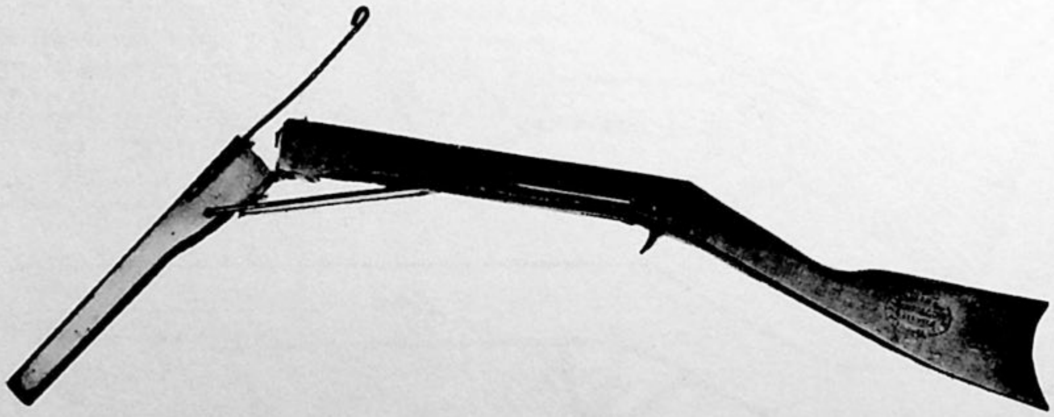
It is not to be assumed that the original Challenger of 1886 was manufactured for only one year and then replaced by the model of 1887 with the Sage patent under-lever. Both arms were probably produced simultaneously. Tooling up for any kind of manufacturing is expensive and most factories continued to make outdated models as long as tools and dies permitted. It simply was not economically feasible to do otherwise.

By 1888 Markham introduced the third model of his wooden B.B gun, the Chicago. This third model was produced along with the first two models. The 1888 model was dubbed the Chicago out of deference to the location and market of the principal distributor, Thorson & Cassady.

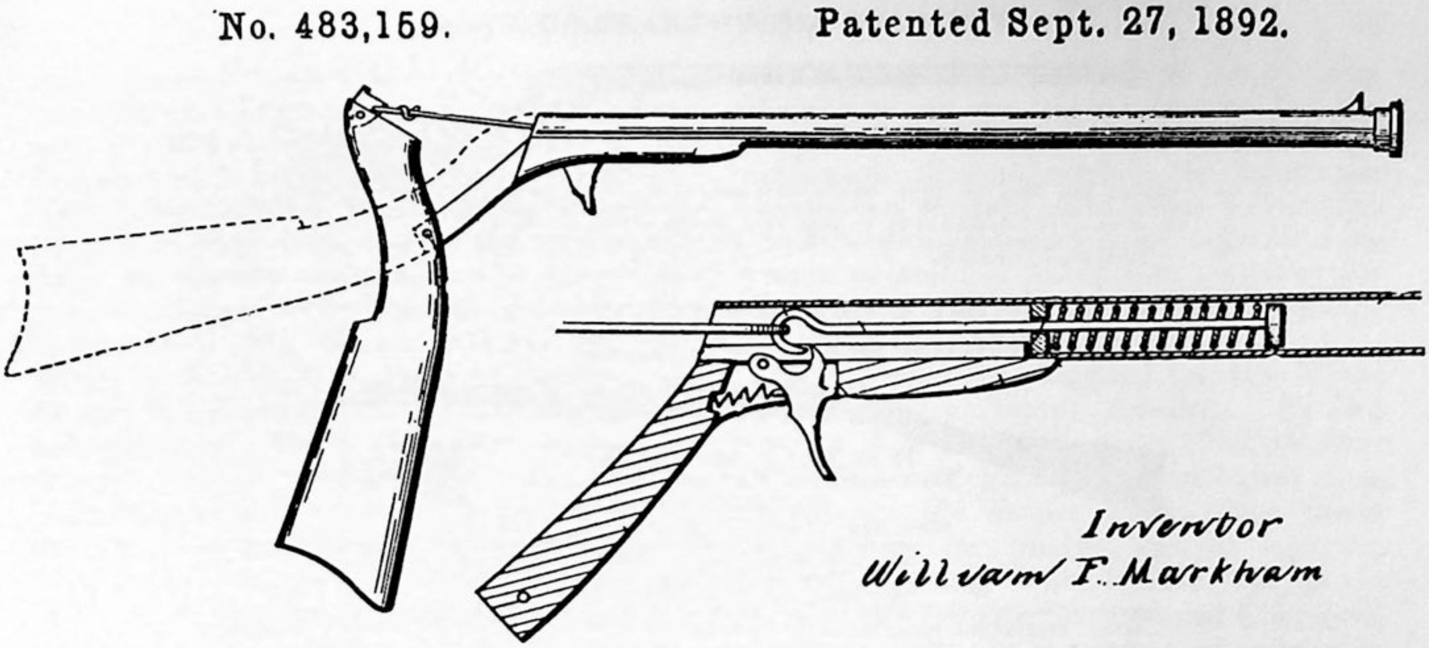
The 1888 model was a substantial improvement over the model of 1886. Two cocking rods were provided for the backward push needed to draw back the spring loaded plunger, thus lessening the problem of bending the rods. A slot was provided in the stock through which the rods passed giving them additional support. The overall length was increased by four inches and the proportions slimmed considerably to reduce the clubbish look of the original. An oval logo carrying the Markham address and patent was impressed into the rosewood stained stock. The Chicago was a sturdy and functional B.B gun. But the early lead it gave Markham Air Rifle Company was to be short lived.

With the appearance of the all metal Daisy in 1887, Markham was forced on the defense. The new Daisy was not only a mechanical and material improvement in B.B gun design, it looked more like a gun than the wooden Chicago. Apparently Markham's first reaction was to attempt a repeater of some kind to compete with the Daisy single shot. In 1891, he applied for a patent on an unusual rotating shot seat device which allowed a B.B to enter from a magazine running along the top of the shot tube. A large screw head protruding from the shot seat was given a quarter turn to bring it in line with a shot tube breech. The design was granted patent number 473,633 in April of 1892. It does not appear workable simply because there was nothing to prevent the B.B from rolling out the end of the gun when it was tilted down. The invention does not appear among the Markham specimens examined by the author.

In the same year, Markham was granted



Popularity of the 1888 CHICAGO, Markham's third model all wooden B.B gun, was overshadowed by emergence of all-metal designs by competitors.



patent number 483,159 for an invention which included a means for cocking the plunger by using the breaking action of the stock hinged at the breech. The principle was already well covered by patents issued to Clarence Hamilton as early as 1888. But the important fact is that patent number 483,159 gave Markham license to produce an all metal break-open and lead to the introduction of the folded sheet metal King.

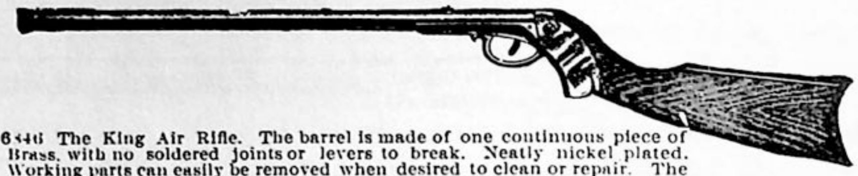
No doubt Markham was manufacturing the King as soon as he applied for his break-open patent in 1890, although the earliest King advertisement in the author's papers is the *Montgomery Ward and Co.'s Catalogue No. 57,* 1895. The King was an attractive nickel plated rifle with a distinctive rosewood stained wood stock. The first model was a single shot and retailed for 90 cents, or 5 cents more than the Chicago advertised in the same catalog as Old Reliable.

A repeating version of the King was advertised in 1897 and sold for $1.15. It held 150 shots with the B.Bs introduced into the muzzle of the barrel one at a time from a reservoir magazine in the barrel housing. While not a true repeater, it did appear at a time when Daisy was still manufacturing single shot rifles. Protection was provided under patent number 557,849 granted to Markham in April 1896. Further protection for the King design was provided by patent number 553,716, which amounted to little more than a design patent which incorporated no new mechanical variations. One of the unique features of the King was its adjustable rear sight which, interestingly, was not part of the patent application, but was a well advertised feature.

From the beginning, Daisy Manufacturing Company had consistently undersold both Markham's Chicago and his King. To counter this, Markham introduced the less expensive Prince in 1900. Advertised as the latest improvement in air rifles, ". . . with no castings to break," (a direct slap at the Daisy and Globe cast iron frames) it sold for 67 cents in Sears Roebuck's 1901 catalog. This was cheaper than the Daisy, which had gone up to 73 cents. Markham also dropped the price of the King to 68 cents, thus underselling his most serious competitor for the first time.

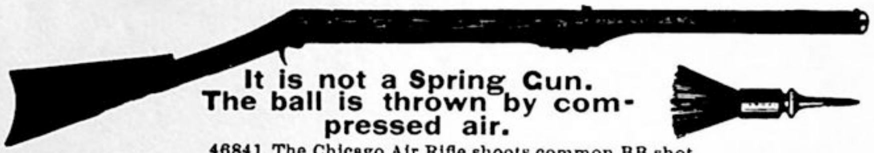
The Prince was well covered by patents. Patent number 655,170—issued in July 1900—covered the no trigger guard frame design. Number 696,461, of April 1902, was related to the removable shot tube and the method of latching it at the muzzle with the front

THE KING AIR RIFLE, $0.90 EACH.



46840 The King Air Rifle. The barrel is made of one continuous piece of Brass, with no soldered joints or levers to break. Neatly nickel plated. Working parts can easily be removed when desired to clean or repair. The latest thing in air guns. Shoots BB shot. One of the strongest and most durable on the market.

THE CHICAGO AIR RIFLE.
"OLD RELIABLE." $0.85.

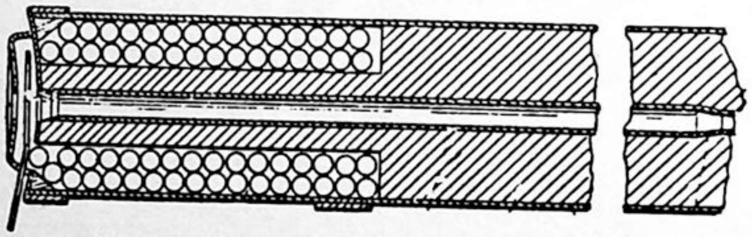


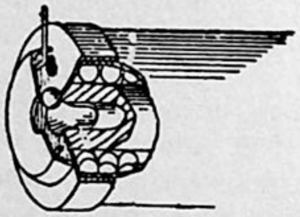
It is not a Spring Gun. The ball is thrown by compressed air.

46841 The Chicago Air Rifle shoots common BB shot and darts; will kill small game at 50 feet, with the BBs, costs 1 cent to shoot 100 times; the stock and frame are maple, nicely varnished and stained, representing rosewood. The air chamber and inserted barrel are made of drawn brass, accurately bored and polished. The ball is held tight in place in barrel. Plunger and piston made of best steel. Made to stand hard usage. Not liable to get out of order.

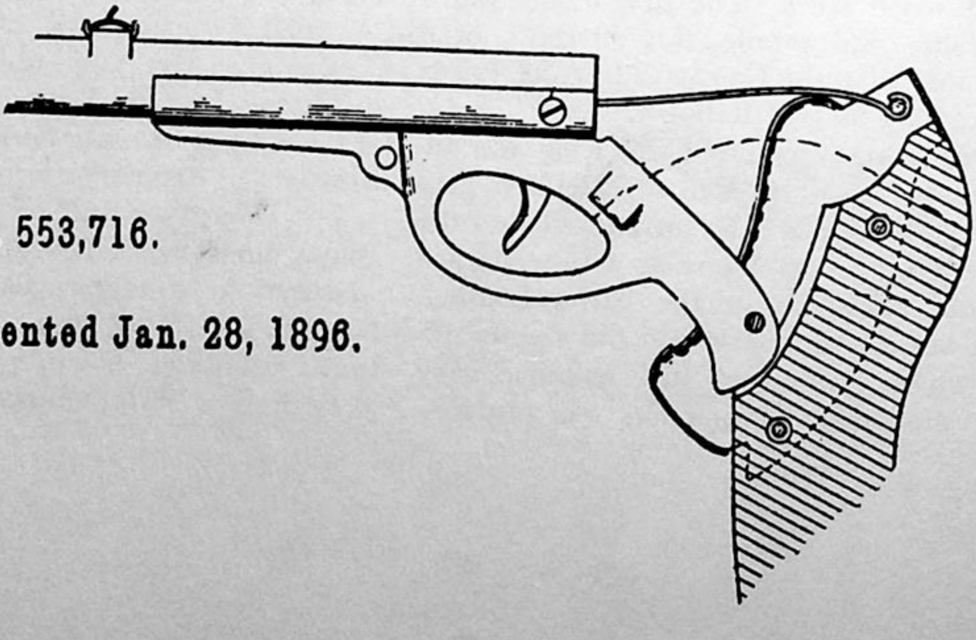
death to sparrows and rats, etc.
Mainsprings, each, 10c

No. 557,849 Patented Apr. 7, 1896.





Inventor:
William F. Markham



No. 553,716.

Patented Jan. 28, 1896.

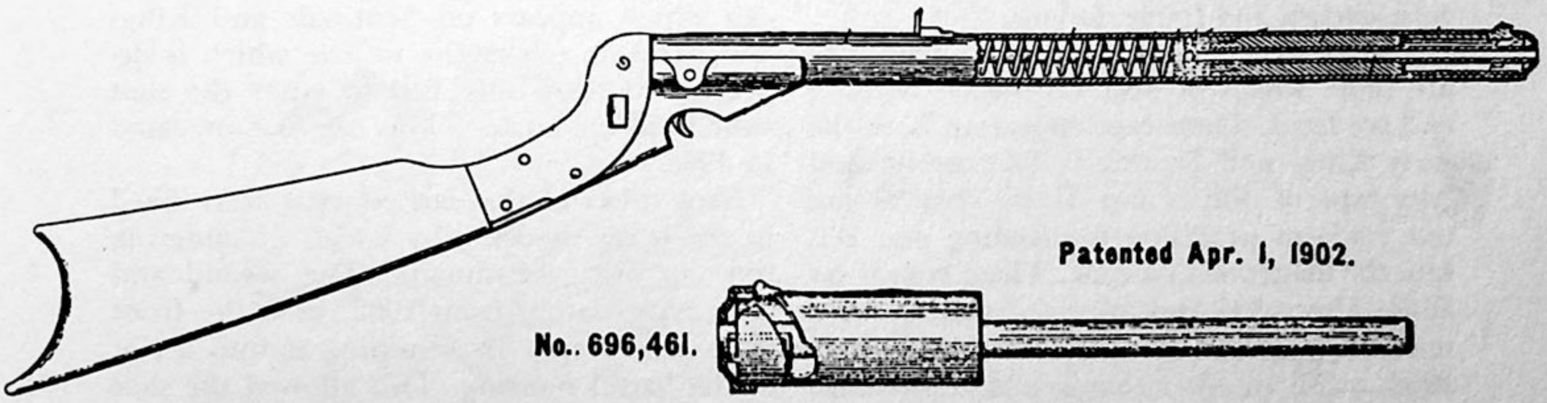
sight cammed into a locking slot. Patent number 718,646 was granted to Markham in January of 1903 for a break-down version of the Prince, which was probably never marketed. The Prince was apparently quite successful both as a retail item and as a premium offered by novelty companies who used children as salesmen. The gun was manufactured at least until 1912 when it appeared as a premium given by U.S. Supply Company of Greenville, Pennsylvania, where the gun was referred to as a Daisy, either by oversight or design.

Perhaps as early as 1903, a second model of the King was introduced. The new design in both single shots and repeaters was the work of D. F. Polley, an inventor and assignor to the Markham Company. Polley's first patent, obtained in 1903 (number 742,734), was for considerable improvements in the manufacture of Markham break-open B.B guns. Among other things, the patent provided for a threaded end on the shot tube, which screwed into the plunger abutment making an air tight seal and doing away with the old method of using the front sight blade as a latch for the shot tube. The patent also provided for double-walled barrel contruction, which gave an air tight chamber for the plunger and an improved cocking and sear mechanism. Also included in the patent was a means for stamping the frame and trigger guard from one piece of sheet metal, making a more streamlined frame with a smaller pistol grip. This is the most easily recognized feature of the Polley series.

D. F. Polley also designed the first of the Markham step barrel housings. By his method, patented in January 1906, number 808,680, the air chamber and the barrel housing were made in two pieces. The barrel housing was the smaller and fit into the plunger housing. This feature was incorporated into both the Sentinal and King models after 1906. In specimens of otherwise similar design, a one-piece barrel and air chamber can be considered an earlier model than the two-piece or step barrel.

Dating specimens of the King, Sentinal, and Prince models gets muddy after 1906. Lacking advertising or other literature from the Markham Company, an examination of specimens and patents must be used to indicate the probable chronology. Three vari-

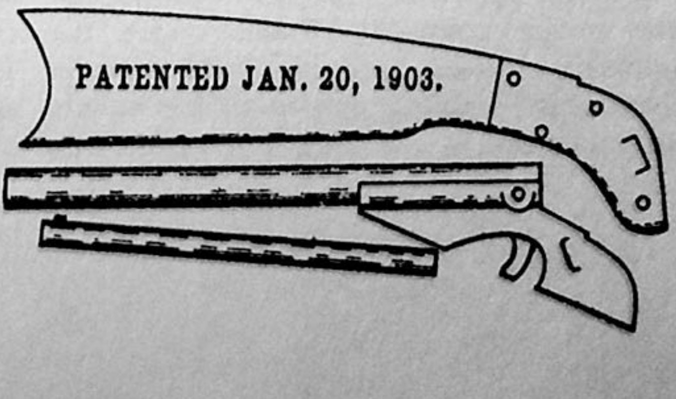
No. 655,170. **Patented July 31, 1900.**



Patented Apr. 1, 1902.

No.. 696,461.

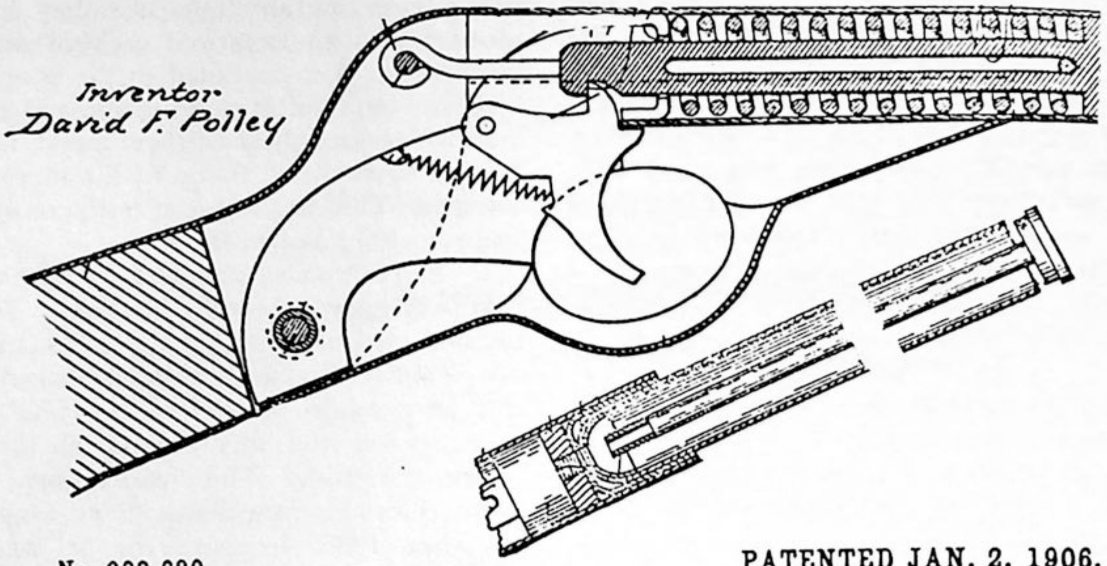
No. 718,646.



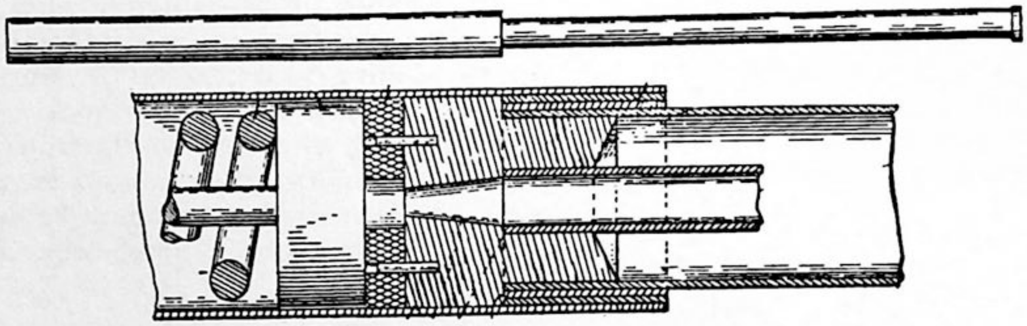
PATENTED JAN. 20, 1903.

Inventor
William F Markham

No. 742,734. PATENTED OCT. 27, 1903.



No. 808,680. PATENTED JAN. 2, 1906.



ables appear to be valid: muzzle caps, shot tube latches, and frame designs.

The earliest of the Markham muzzle caps are those which fit over the barrel housing and are fixed. These caps appear on both the early Kings and Sentinals. The second and later type of muzzle cap is also an over cap but contains provision for feeding one B.B into the magazine at a time. These appear on Kings after 1895 and are distinguished by a small wire which was moved to the side to allow a B.B to enter the muzzle. These caps are fixed and the shot tube is not removable. A later cap, patented in 1903, allows the shot tube to be removed by unscrewing the knurled cap from the end of the muzzle. These caps fit almost flush with the muzzle and continued in use until the 1930s. The last cap used on early Markhams is a Polley cap which appears on Sentinals and Kings and has a button at the muzzle which is depressed to allow one B.B to enter the shot tube from the muzzle. This cap first appeared in 1908.

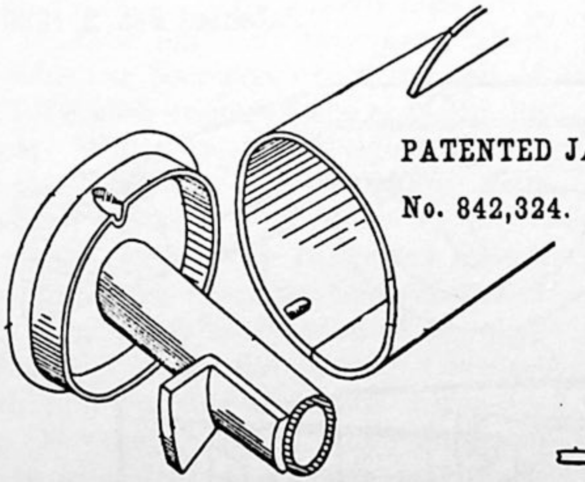
Shot tubes of the earliest type were fixed in the barrel housing by means of soldering the cap over the muzzle. The second and later type, dating from 1902, used the front sight as a keeper by camming it into a slot in the barrel housing. This allowed the shot tube to be extracted for removing shot and shooting darts which had to be loaded from the breech. The third variation dates from 1903 and is a Polley patent using a threaded shot tube breech screwed into the plunger abutment. The last method, patented by

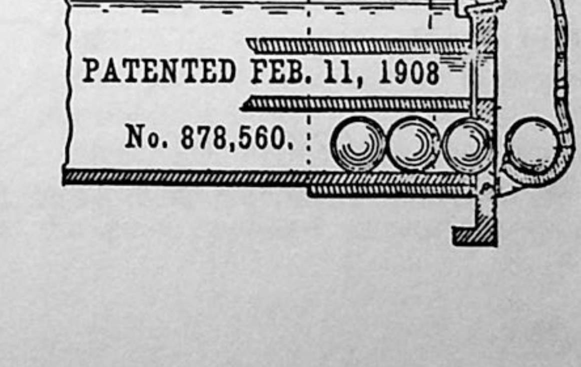
Markham in 1907, used a tab fixed to the shot tube behind the muzzle cap which cammed against a keyway soldered into the inside of the barrel housing. In 1908 Polley patented a hinged front sight which served to latch the muzzle cap to the barrel by means of a small hook. The latter type does not appear on any of the specimens examined.

Frame designs changed on King models at least three times from 1890 to 1916. The first design was Markham's and used a sheet metal frame and grip frame hinged to a stock reinforced with a piece of sheet metal. The design has a severely dropped stock and a long pistol grip. The second design, probably Polley's, appeared in 1903. It is distinguished by the sheet metal on the stock, which wraps around and over the wrist forming a stronger joint, and reducing the severe drop of the earlier stock. This design retained the sheet metal trigger guard as part of the frame. A variation has been observed without the sheet metal trigger guard and using a wire guard in its place. The third design, the Polley patent frame, incorporated the sheet metal trigger guard into the frame in such a streamlined fashion that no pistol grip remained and the stock had little drop.

These three variables, in addition to the straight or stepped barrel design already discussed, make it possible to organize Markham specimens chronologically from earliest to latest, at least until such time as literature is uncovered which yields positive identification by date.

About 1908, Markham introduced the first in a series of inexpensive single shot B.B and cork guns all designed along the same basic lines. The distinguishing feature of these guns is a cast iron trigger guard, an arm of which extends rearward and forms a strong tang to which is joined the butt stock. The cross pin through the tang serves as a hinge for cocking. This resulted in an appearance quite different from earlier designs in which the frame was as wide as the barrel housing and stock. In the new designs, which appear to be the work of E. S. Roe, the frame is thin and flat, about the thickness of the trigger guard. Markham and Roe were granted patents on this design in February 1909, number 911,056. The best known Markham B.B gun manufactured in this design was the King Three-In-One which shot B.Bs, darts, and corks. It was manufactured from 1908 until the mid 1920s and was a top seller in the line.



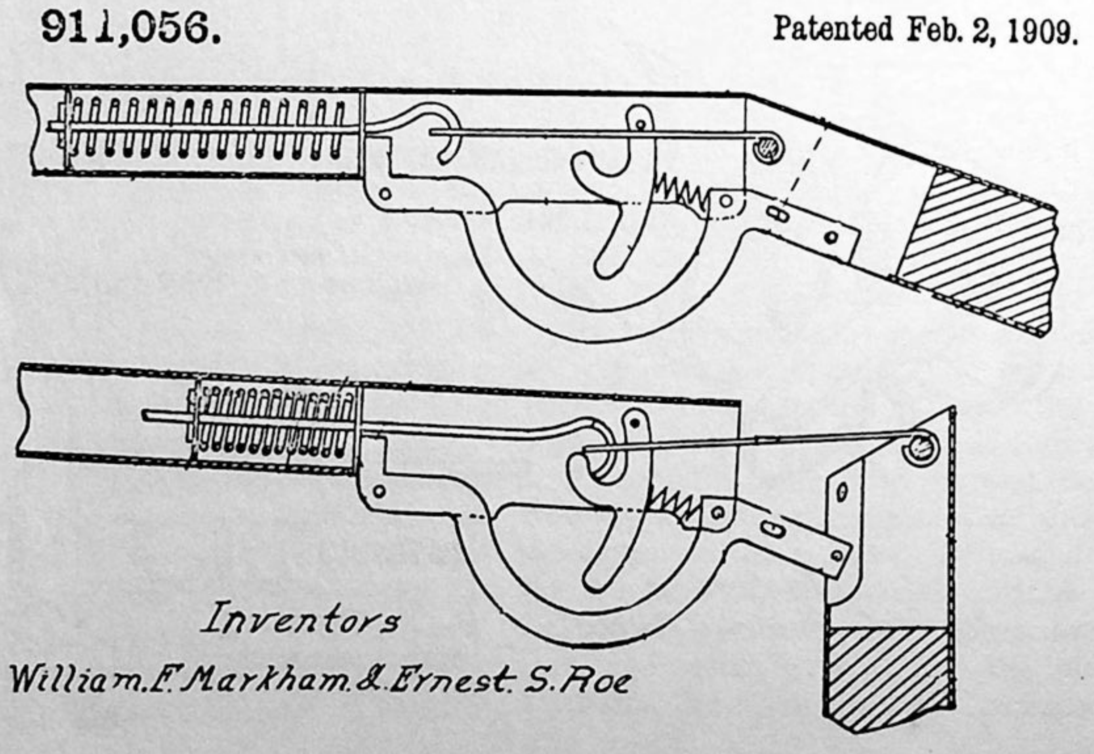


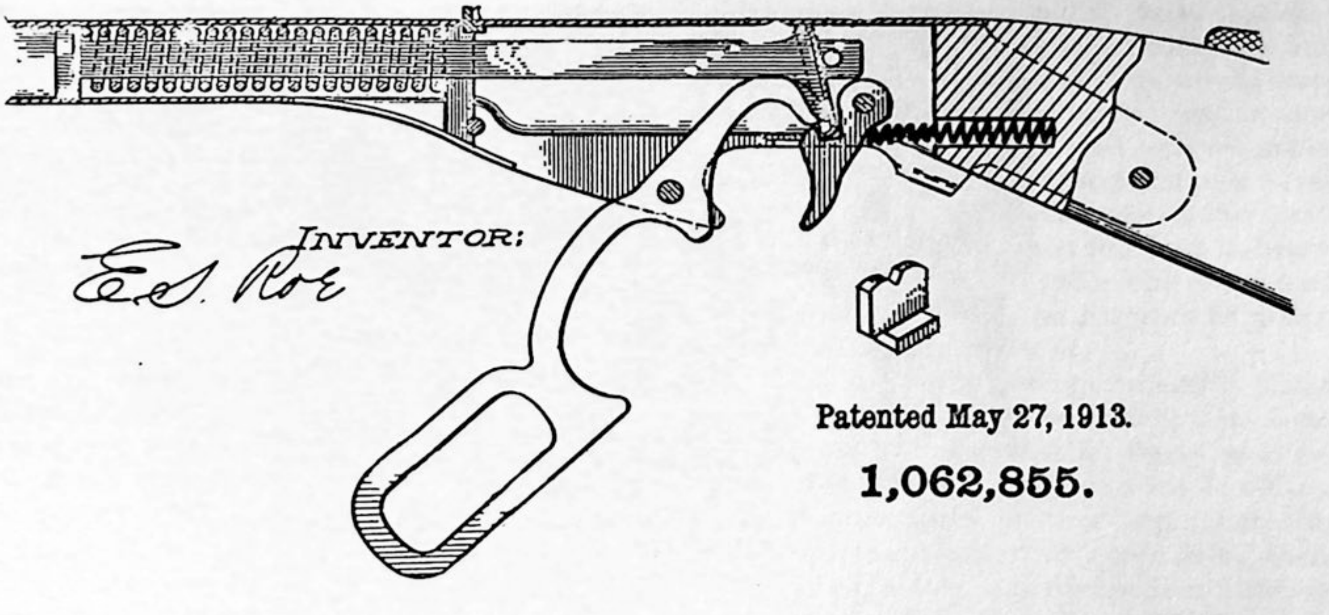
By 1910, Markham had a lever-action rifle on the market. The design was largely the work of E. S. Roe, although the patents cited on the gun are for earlier features such as the late model shot tube latch. Roe's first lever-action patent was granted in May 1913, number 1,062,855. The patent actually had little to do with the lever-action and dealt more with the method for placing the spring on the plunger. Once again, however, the general nature of the patent gave Markham license to manufacture a B.B gun model that closely resembled that of his competition.

The resulting B.B gun was a 500 shot repeater with gravity feed. Shortly thereafter, a 1000 shot model was introduced. A specimen in the author's collection has a well-shaped straight grain walnut stock with a crescent butt and a slim lever with the top of the loop straightened to conform to the wrist. The barrel is round to about two inches from the frame where it becomes octagon to match the contour of the scroll stamp engraved frame. In all it is probably the most attractive of all the Markham guns and its manufacture continued well into the 20s. In addition to the 500 and 1000 shot models, a special deluxe blued model was issued at a premium price.

From 1909 to 1910, Markham was playing catch-up with his competition, principally Daisy. While he was holder of at least twelve patents in his own name plus those by Roe, Polley, and Sage, he did not hold the critical ones. Daisy beat him to the punch with the first all metal design, the first practical break-open, the first mechanically successful repeater and the first lever-action. To make matters worse, Daisy was also underselling him during the first few years of competition for dominant position in the market. A flurry of Markham design activity during the first decade of the twentieth century came too late to stem the tide of Daisy advertising. No matter what models he came up with, Markham seemed unable to convince boys that there were B.B guns other than Daisys.

There is nothing to indicate to this author that Markham designs were inferior nor that the products were of poor quality. Quite the contrary—all the Markham guns the author has examined have been well fitted and finished and functioned as well as the competition; in many cases better. The Markham's





Patented May 27, 1913.

1,062,855.

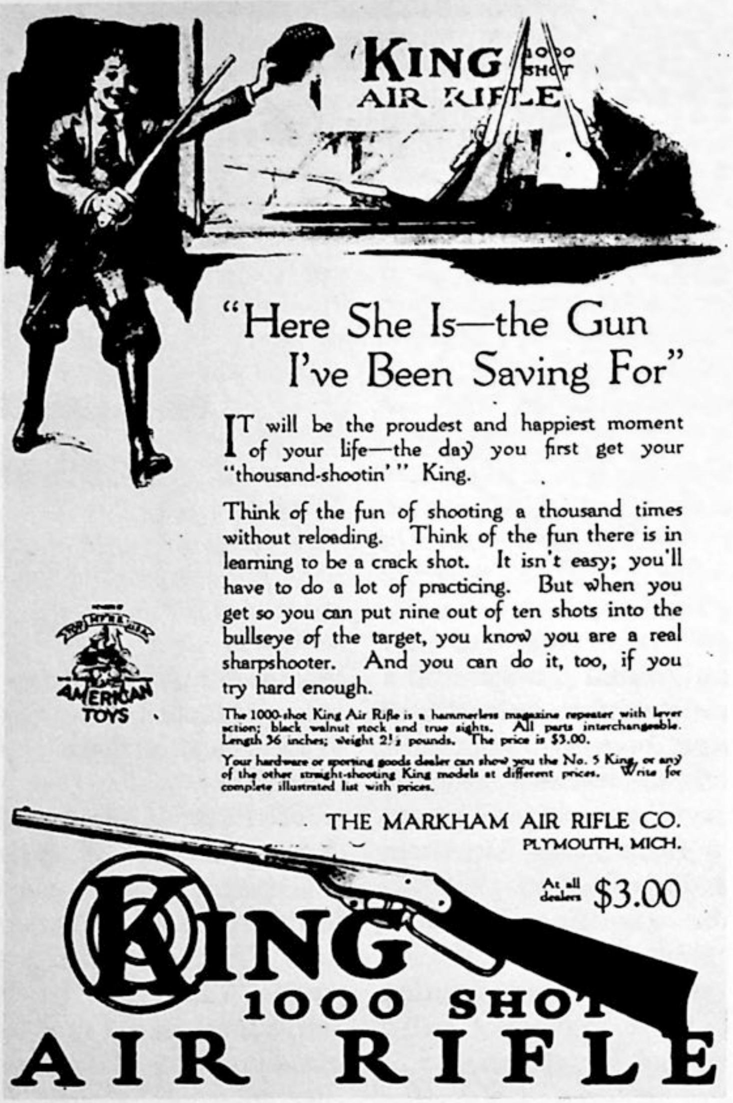
contained a more tightly fitted plunger and a stiffer mainspring than the other brands, and had a reputation among boys for being hard shooters. However, these features also increased the probability of breakage. The author has examined a number of Markham repeating rifles which have broken air tubes lodged in the shot tube or missing altogether. A great many older shot tubes on repeaters have a telltale bulge at the muzzle indicating that the air tube has more than once failed to align with the bore and struck the rear of the shot tube with enough force to bulge the muzzle cap. With Markham's tighter fitting air tube this was more likely to happen than in competitor's guns.

The major reason why customers consistently bought Daisy rifles first apparently lies in advertising. Daisy early adopted a policy of turning back a portion of sales revenues into both point of sale and mass media advertising. Markham, on the other hand, advertised little and as sales began to fall off, cut the first expendable item from his budget —advertising. It appears to be this single fact more than anything else that prompted W. F. Markham to sell his company's controlling interest to Daisy executives E. C. Hough and Charles Bennett in 1916. Markham then left Plymouth and moved to California where his interests turned to real estate. He is reported to have been a sharp operator and very successful.

Takeover of the Markham Company was done rather quietly. It is reported that few Markham employees knew that they were in fact working for Daisy bosses Hough and Bennett. The competition between the two companies, which were by then located directly across the railroad track from each other, was encouraged by Daisy stockholders in the hope that it would benefit both product lines. Whether or not the gambit worked is a moot point. On the one hand it is reported that competition brought out the best in both product lines. On the other hand, mediocre sales from 1914 to 1928 kept the operation marginal.

The pattern of little or no advertising established under Markham ownership continued under the direction of principal stockholders, Bennett and Hough. This policy relegated the Markham B.B guns to Brand X status: guns to be bought by boys who could not obtain a Daisy.

Markhams were handled in large quantities. Orders were taken during the winter and the guns produced during the spring and



"Here She Is—the Gun I've Been Saving For"

IT will be the proudest and happiest moment of your life—the day you first get your "thousand-shootin'" King.

Think of the fun of shooting a thousand times without reloading. Think of the fun there is in learning to be a crack shot. It isn't easy; you'll have to do a lot of practicing. But when you get so you can put nine out of ten shots into the bullseye of the target, you know you are a real sharpshooter. And you can do it, too, if you try hard enough.

The 1000-shot King Air Rifle is a hammerless magazine repeater with lever action; black walnut stock and true sights. All parts interchangeable. Length 36 inches; weight 2½ pounds. The price is $3.00.

Your hardware or sporting goods dealer can show you the No. 5 King, or any of the other straight-shooting King models at different prices. Write for complete illustrated list with prices.

THE MARKHAM AIR RIFLE CO.
PLYMOUTH, MICH.

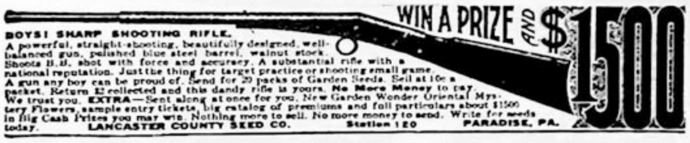
At all dealers $3.00

Markham advertisements such as this appeared only infrequently, and usually followed a format and theme closely resembling those by Daisy.

summer for fall delivery. Sears, Roebuck and Company was one of the prime handlers of the Markham line.

In 1916, Markham celebrated its thirtieth years of business by moving to a new plant capable of producing 3000 guns a day. One interesting piece of literature survives from that year. A well known cartoonist, Charles Briggs, was commissioned to draw special illustrations for a Markham catalog celebrating the company's thirtieth year. This was one of the first advertising attempts to bridge the gap between adult and juvenile appeals. The technique was brought to its greatest effectiveness in later Daisy advertising under the direction of Cass Hough.

The lack of advertising also worked to shape the total Markham line. The only special models produced were the KING KADET, a specal military model with bayo-



BOYS! SHARP SHOOTING RIFLE. A powerful, straight-shooting, beautifully designed, well-balanced gun, polished blue steel barrel, walnut stock. Shoots B.B. shot with force and accuracy. A substantial rifle with a national reputation. Just the thing for target practice or shooting small game. A gun any boy can be proud of. Send for 20 packs of Garden Seeds. Sell at 10c a packet. Return $2 collected and this dandy rifle is yours. **No More Money** to pay. We trust you. **EXTRA**—Sent along at once for you, New Garden Wonder Oriental Mystery Flowers, sample entry tickets, big catalog of premiums and full particulars about $1500 in Big Cash Prizes you may win. Nothing more to sell. No more money to send. Write for seeds today. **LANCASTER COUNTY SEED CO.** **Station 120** **PARADISE, PA.**

Both Markham and Daisy ring trigger single shots such as this one were popular prizes with companies using boy salesmen. Retailing for less than 50 cents, they were surprisingly well made.

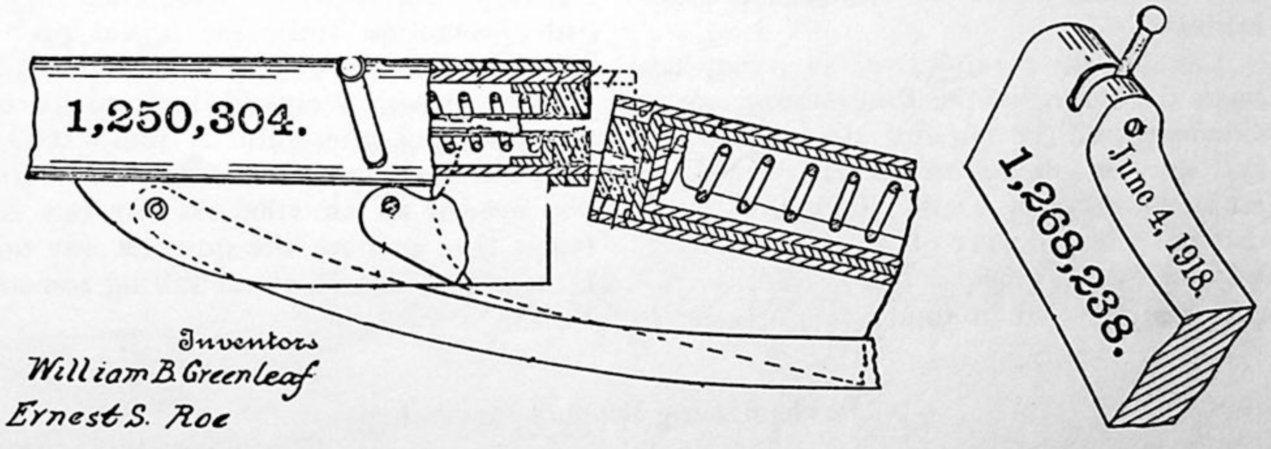
net and sling, and the NEW CHICAGO, an all-metal adaptation of the first Markham wooden B.B gun. The latter was the work of W. B. Greenleaf, who obtained patents on the design in 1917 and 1918. Both Kadet and Chicago it appears, suffered from underexposure and are likely rare today. Markham was a solid standard line with no fancy stuff.

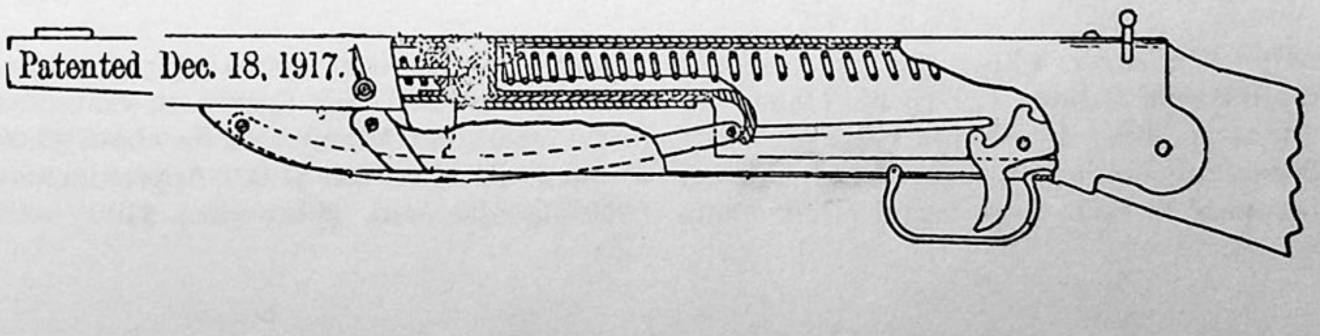
In 1928 the Markham Air Rifle Company name was dropped, and the company was renamed King Air Rifle Company by which it had already become more commonly known. In that year Cass S. Hough joined King as Secretary and Treasurer. A year later young Hough, grandson of Daisy founder Lewis Cass Hough, also took over the job of Vice President for Sales at King.

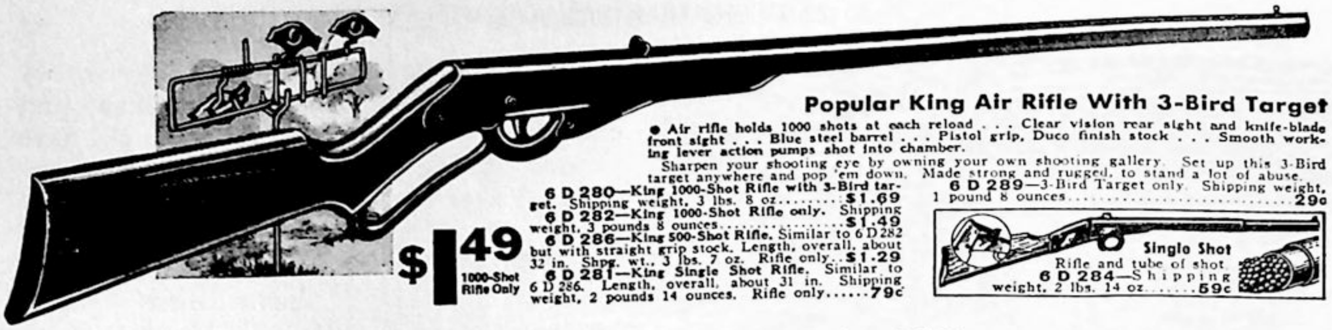
That year Sears proposed to Daisy that they sell directly to the mail order company and eliminate the middle man. This would have meant jobbers' prices for Sears and a correspondingly lower retail price to customers. Daisy refused, realizing that such price cuts would hurt their major customers, the small local merchants. King thus fell heir to Sears' business from then until 1935. The only Daisy purchased by Sears was the Number 25 pump—they paid full price for it.

A marketing arrangement whereby Kings were sold in large orders to catalog sales firms and premium houses while Daisy was retained as the high quality gun for handling by local merchants further separated the product images of the two guns. From then until the King line was dropped in 1940, it remained the poor stepchild of B.B guns.

Stockholders' meetings were held the first week of January, during which the new product lines were shown to the shareholders and announced to the salesmen. The Daisy stockholders' meeting was held on the first Monday; salesmen were shown the line, given their literature, and told to go out and sell B.B guns. The following day the King stockholders' meeting was held. Salesmen were







Popular King Air Rifle With 3-Bird Target

● Air rifle holds 1000 shots at each reload . . . Clear vision rear sight and knife-blade front sight . . . Blue steel barrel . . . Pistol grip, Duco finish stock . . . Smooth working lever action pumps shot into chamber.

Sharpen your shooting eye by owning your own shooting gallery. Set up this 3-Bird target anywhere and pop 'em down. Made strong and rugged, to stand a lot of abuse.

6 D 280—King 1000-Shot Rifle with 3-Bird target. Shipping weight, 3 lbs. 8 oz.........$1.69

6 D 282—King 1000-Shot Rifle only. Shipping weight, 3 pounds 8 ounces..................$1.49

6 D 286—King 500-Shot Rifle. Similar to 6 D 282 but with straight grip stock. Length, overall, about 32 in. Shpg. wt., 3 lbs. 7 oz. Rifle only..$1.29

6 D 281—King Single Shot Rifle. Similar to 6 D 286. Length, overall, about 31 in. Shipping weight, 2 pounds 14 ounces. Rifle only......79c

6 D 289—3-Bird Target only. Shipping weight, 1 pound 8 ounces..............................29c

Single Shot

Rifle and tube of shot

6 D 284—Shipping weight, 2 lbs. 14 oz.......59c

$1.49

1000-Shot Rifle Only

Last of the King B.B guns was this big 1000 shot with a curved lever. The accompanying 3-bird target is a difficult to find accessory.

shown the new product line and told to wait until the following Monday before they took to the road to sell King B.B guns. Of course, when they visited their customers, the King salesmen found that Daisy had already been there ahead of them. After two particularly discouraging sales trips, Cass Hough decided to concentrate his efforts on the other King lines. He returned from a trip to New York with an order from a leading dime store chain for one sample case of pop guns for each of the chain's retail stores. The total number of pop guns in the sample order amounted to more guns than King had been producing annually. Young Hough was taking seriously his father's good-natured charge to ". . . go over to Markham and see if you can run us out of business."

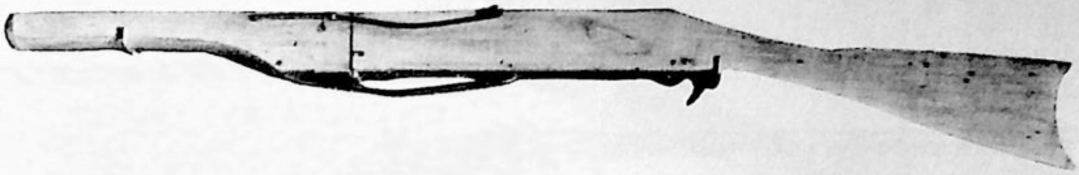
Although the ensuing Depression may have made the closing of the King Manufacturing Company and the removal of its equipment and some employees to the Daisy plant an economic necessity, Daisy men still maintain that the sales wizardry of young Cass Hough was resulting in more competition for the parent company than it found comfortable. In 1931, the King plant was closed and Cass Hough went to work for Daisy.

After the move the King line was maintained intact until 1934 when the two lines were merged in a process that resulted in the incorporation of the best features of both lines into a single design. From 1934 until World War II, most King and Daisy parts were interchangeable. After World War II, the King line was not reintroduced and the Markham Company had become history.

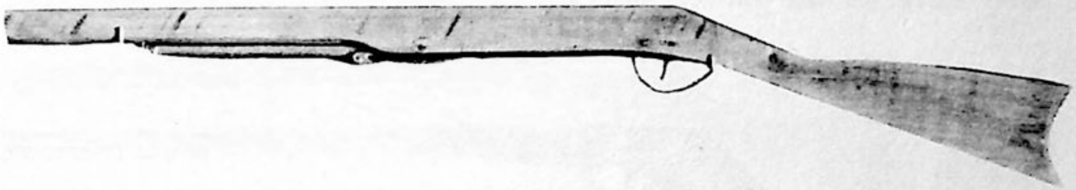
Markham B.B guns were good looking, moderately priced, and shot hard. While there is probably no single reason why they could not maintain their early lead, one likely answer lies in the character of their advertising. The Markham Air Rifle Company did little promotion and what it did probably worked against rather than for sales. Advertisements which promised death to sparrows, mice, rats and other animals from KING B.B guns did nothing to convince parents that a boy needed an air rifle. As any boy could testify then or now, the quickest way not to get a gun is to talk about killing something with it.

Markham/King Product Chronology

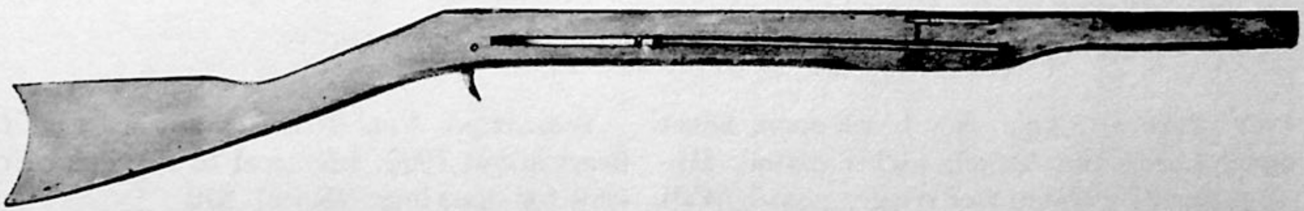
1886 Challenger: This is the first successful toy B.B gun. Caliber .180 (B.B). Honey yellow maple, hinged underneath, barrel breaks downward, forcing spring loaded plunger backward to cock. Brass barrel inletted into forestock. Single iron operating rod underneath. About 29″ long. Specimens examined had no markings. Wholesaled for about $9.00 a dozen. Retailed for $1.00. Approximately 5000 manufactured. (Very rare) $100



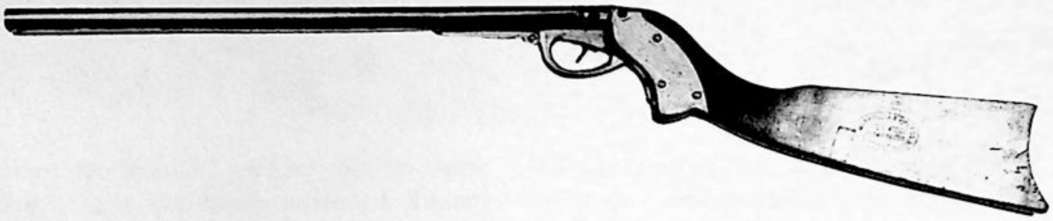
1887 Challenger: This is the second model Markham wooden rifle, Sage Patent. Caliber .180 (B.B). Solid one piece yellow maple stock without center hinge. This model used an iron under-lever cocking piece located forward of the trigger. Has sheet metal trigger guard. In other characteristics similar to the previous model. Specimens examined had no markings. Approximate number produced 5000. (Very rare) $100



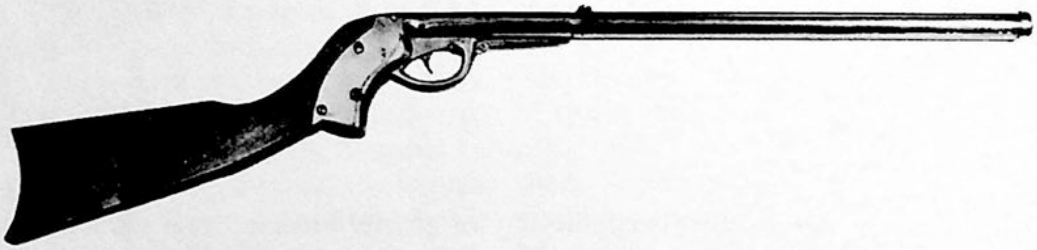
1888 Chicago: Basically an improvement of the first model Challenger, with double cocking rods through the stock. Caliber .176 (air rifle shot). Also shot darts. Maple stock and frame with rosewood stain. Slim design overall with longer barrel than Challenger. Barrel breaks downward to cock. Barrel liner was originally brass, in later models may be steel. Overall length 33 inches. Stock stamped on left side with oval logo: Markham Air Rifle Company Plymouth, Michigan, Chicago, patented. This rifle sold by Sears Roebuck in 1897 for $0.73. (Rare) $90



1890 King: Single shot break-open. Sheet metal frame, brass tube barrel, nickel plated. Wood stock has distinctive red stain. Fixed shot tube. Adjustable rear sight. Frame marked King with Markham address. This was Markham's first metal B.B gun. Sold by Montgomery Ward in 1895 for 90 cents. (Rare) $80



1895 New King: Single shot break-open. Identical to the 1890 model King except for a sheet metal barrel with a patch soldered over the seam on the underside. This replaced the brass tube barrel of the earlier model. Hence the label "New" King. The stock is stained red and is stamped: New King Patent Number 483153 in an oval logo. Sears sold this gun in 1897 for 74 cents. (Very scarce) $70

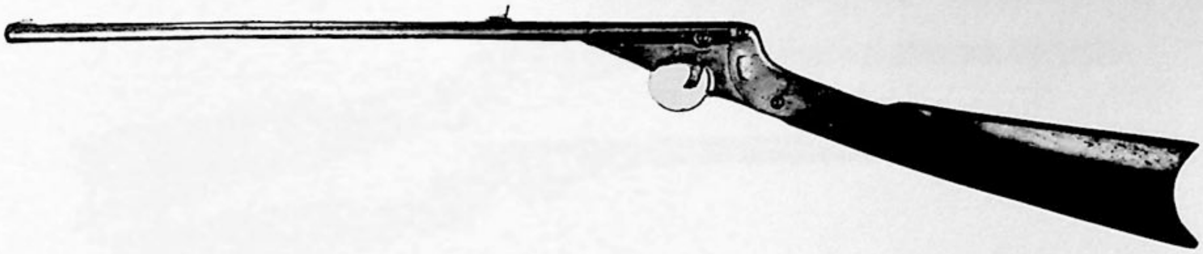


1895 New King Repeater: 150 shot break-open repeater. Externally identical to the single shot model. Distinguishing feature is the muzzle cap which has a lever for opening and closing the B.B reservoir so a ball may be dropped into the shot tube. Later models may have flush muzzle caps with late model repeater mechanism. Sold by Sears in 1897 for $1.15. (Very scarce) $75

1900 Prince: Single shot break-open. Sheet metal frame and barrel, nickel plated. Distinguished by absence of trigger guard. Well shaped walnut stock with crescent butt. Manufactured from 1900 until at least 1915. Popular as a premium item in late teens. (Very scarce) $65

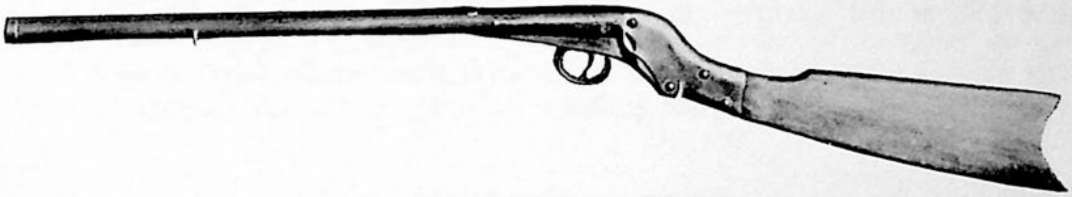
VARIATION: *New Rival.* Manufactured for Sears about 1900. Identical to the Prince except for markings. (Rare) $70

VARIATION: Take down model patented by Markham in 1903. It is not presently known whether or not such models were manufactured.

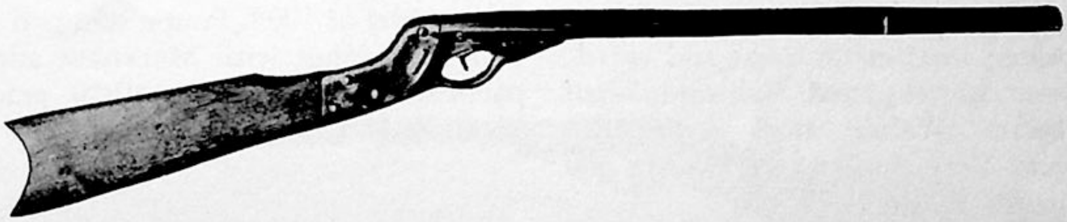


1905 King: Single shot break-open. Sheet metal frame, grip frame and barrel. This appears to be a transition model between the Markham and Polley patents. The grip frame was strengthened by extending it around the wrist. The distinguishing feature is the separate sheet metal trigger guard. May not have been a good seller. (Very scarce) $70

VARIATION: *1907 Carabine La Reine.* A French copy manufactured in Paris. (Rare) $75

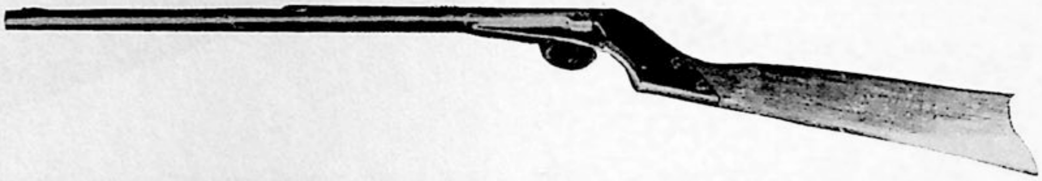


1905 King Model E: Break-open repeater. Sheet metal frame, grip frame and barrel, nickel plated. Straight barrel with early muzzle lever repeating mechanism. This has the easily recognized Polley Patent streamlined frame. Nicely shaped walnut stock with deep crescent butt. (Very scarce) $70

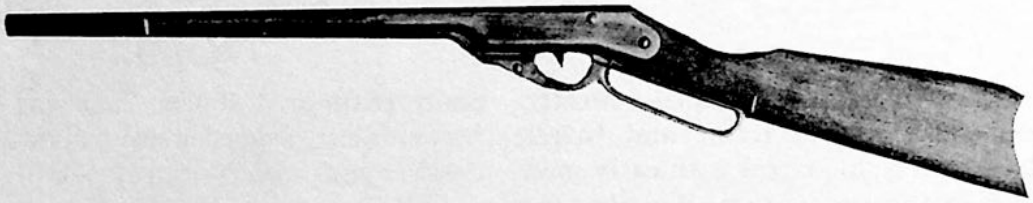


1908 Sentinel Repeater: Break-open repeater. Sheet metal frame, grip frame and barrel. Easily recognized wrap around metal grip frame was an improvement over the earlier King models. Has a sheet metal trigger guard. Nicely shaped walnut stock. Late model repeating mechanism with flush fitting muzzle cap. (Very scarce) $65

1908 Sentinel Single: Break-open single shot. As above but without repeating mechanism. (Very scarce) $65



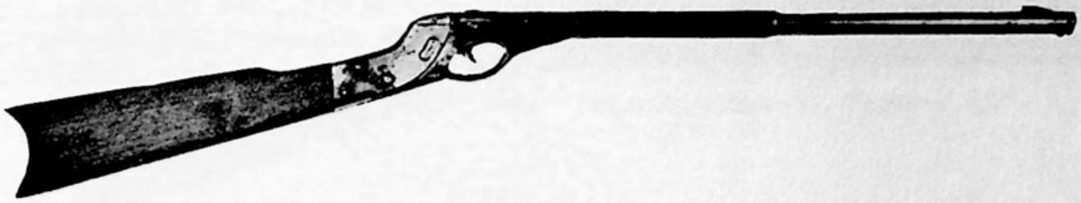
1908 King 500 Shot Number 4: Lever-action repeater. Markham's first lever-action repeater. Sheet metal frame and barrel, cast iron lever, nickel plate. Barrel has distinctive half octagon half round feature reminiscent of expensive sporting rifles of the period. Walnut stock with deep crescent butt. Frame stamped in scroll: King 500 Shot with Markham address and patents. 34 inches long. 1916 price $1.75. (Scarce) $50



1908 King 1000 Shot Number 5: Lever-action repeater, sheet metal frame and barrel, cast iron lever, nickel plated. Half round–half octagon barrel. Walnut stock with deep crescent butt. Very similar to the King 500 Shot model of 1908. Frame stamped in scroll: King 1000 Shot with Markham address and patents. 36 inches long. 1916 price $2.00. (Scarce) $65

1910 King Model D: Break-open single shot. Sheet metal frame, grip frame and barrel, nickel plated. Polley patent frame and Polley patent step barrel designs. Flush fitting muzzle caps with knife blade front sights. Nicely shaped walnut stock with deep crescent butt. This was the final evolution of the Polley design. (Very scarce) $40

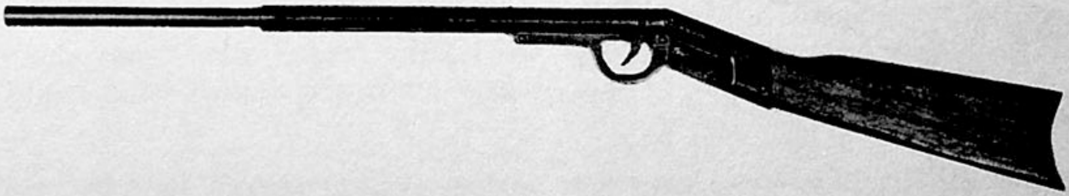
VARIATION: *Export Model D:* Identical to domestic model with the addition of a stock stamp carrying the markings: CARD Armurier Fab. BREVETE a S.S.S. 15 BOUL^{D} ST. (?) PARIS. (Very Scarce) $45



1910 King Model C: Break-open repeater. Companion offering to the Model D with the same Polley patent frame and step barrel design. This has a flush fitting muzzle cap and late model gravity feed repeating mechanism. Nicely shaped walnut stock with deep crescent butt. (Very scarce) $55

1910 King Leader Number 5B: 1000 shot lever-action repeater. This gun is identical to the King 1000 Shot of 1908 except for a gun-blued finish and special attention given to stock finishing. It was originally sold in a hinged gift box lithographed in color. This was the top of the King line in that period, selling for $2.00 in 1916. (Very scarce) $60

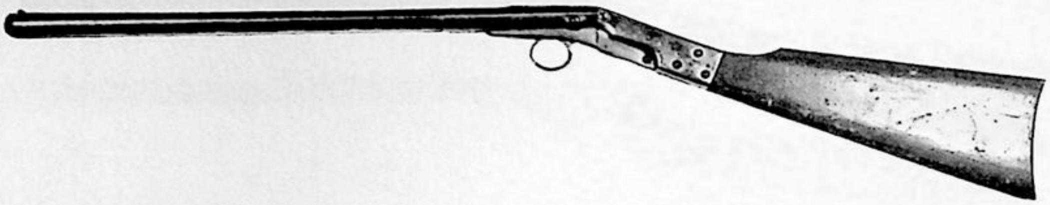
1910 King Junior Number 10: Single shot break-open. Sheet metal frame, grip frame, and barrel—nickel plated. Walnut slab side stock with crescent butt. This is the E. S. Roe patent used on many Markham cork guns and is distinguished by the cast iron trigger guard which extends into the wrist to provide the fulcrum for the cocking action. For many years this was the lowest priced King offering. Collectors should note that there are three models.



1ST MODEL NUMBER 10: As above with straight one-piece barrel. Estimated dates: 1910–1915. (Scarce) $25

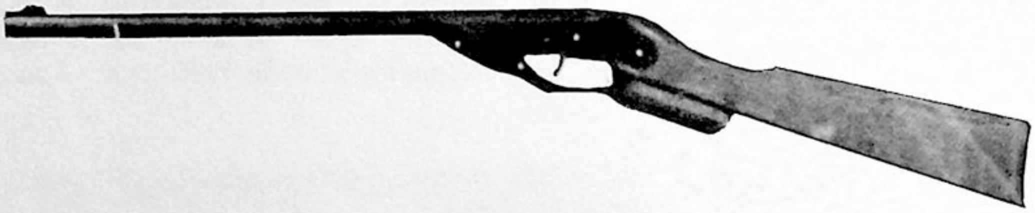
2ND MODEL NUMBER 10: As above with step barrel. Estimated dates: 1915–1925. (Scarce) $18

3RD MODEL NUMBER 10: Late model adaptation of the Roe ring trigger. 1926–1940. (Common) $10

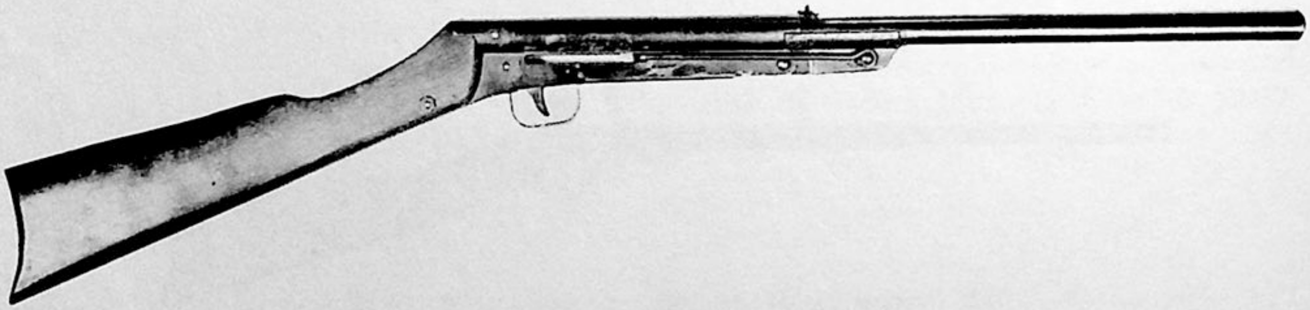


1916 King Single Shot Air Rifle Number 21: Single shot, lever-action. Sheet metal frame and barrel, iron lever, nickel plated. Walnut stock. Frame side marked King. Markham address on barrel. Removable shot tube for air rifle shot or darts. Thirty-one inches long. Retailed in 1916 for $1.25. (Common) $30

1916: King 500 Shot Air Rifle Number 22: Lever-action repeater. A companion piece to the Number 21 single shot. Similar construction and appearance. Thirty-one inches long. Retailed in 1916 for $1.50. (Common) $35



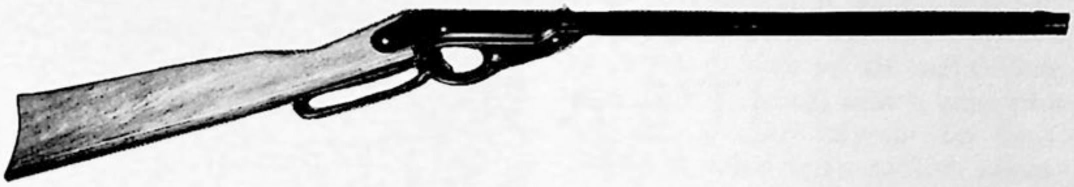
1917 King Breech Loader Number 17: Single shot break-open. A unique break-down action patented by E. S. Roe. It is strongly reminiscent of the 1888 CHICAGO and probably led to the introduction of the NEW CHICAGO in 1923. Distinguishing feature is the outside operating rods which pushed backward as the barrel was tipped down, cocking the plunger. B.Bs were inserted one at a time from the breech. (Very scarce) $30



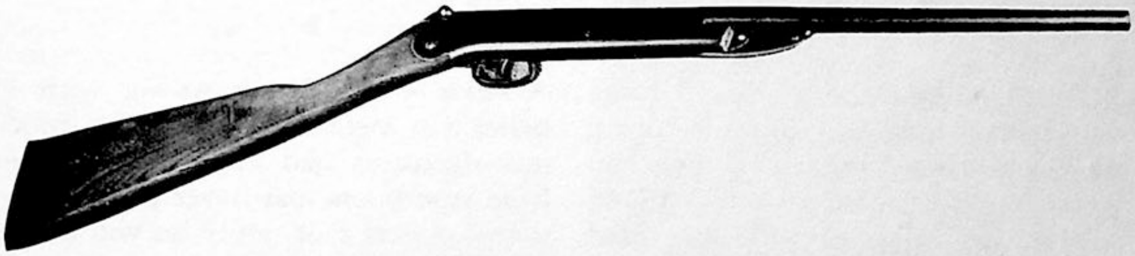
1916 King Kadet Army Gun Number 23: Lever-action repeater basically Number 22 King 500 Shot. Special accessories included: military-type rear sight, rubber tipped bayonet, web sling with swivels. Frame side marked King Kadet. Markham address on barrel top. This was a specialized model promoted during World War. I. Retailed in 1916 for $1.75. (Very scarce) $50

1921 King Model 55 1000 Shot Repeater: Lever-action repeater. This gun replaced the Number 5 King 1000 Shot. Design similar to Numbers 21 and 22 lever-actions. Sheet metal frame and barrel, iron lever, blued. Straight walnut stock. Markham address on barrel top. (Common) $15

VARIATION: Pistol grip model. This was the first B.B gun to use the curved lever and pistol grip stock. The King frame was used until 1935, after which the Daisy (H) frame became standard. (Scarce) $20



1923 King New Chicago: Single shot, break-open. This is an all-metal adaptation of Markham's first successful air rifle, the "Challenger" or "Chicago." Barrel marked New Chicago Number 24. With Markham address. 36 inches long. Sold for $2.35 in 1923. (Scarce) $50



1935 King 1000 Shot Repeater: Lever-action repeater. This was the last KING air rifle and definitely reflects the DAISY design influence. Blued finish, pistol grip wood stock. Bears a marked resemblance to both the Red Ryder carbine and Daisy's Number 155. This gun retailed in 1935 for $1.50. (Common) $10

1935 King 500 Shot Repeater: Lever-action repeater. Design similar to the 1000 Shot except for straight grip stock. This gun replaced the King Number 22 and shows the influence of Daisy design. Retail in 1934 for $1.30. (Common) $10

1935 King Single Shot: Single shot lever-action. Design similar to 1000 and 500 Shot Kings. Has straight grip stock. Shows Daisy design influence. This gun sold in 1935 for $0.80. (Common) $8

3

IT'S A DAISY

At 17, Edward Hough began working in his father's B.B gun business. Walking to work, he daily passed beneath the office window of rival W. F. Markham. After several unsuccessful attempts to get the boy to work for him, the disgusted Markham poked a B.B gun out the window and shot the future Daisy executive in the backside. The return shot was fired 25 years later when Edward Hough closed the deal to buy out the Markham Air Rifle Company.

In 1895, the Plymouth Iron Windmill Company was renamed the Daisy Manufacturing Company. For nearly a decade, while the company's giant farm windmills had suffered steadily decreasing sales, its little tinplated B.B gun had skyrocketed. To company founders, Lewis Cass Hough and others, the switch from titans to toys must have been disappointing. But to millions of American boys it signaled the start of an American institution.

The Plymouth Iron Windmill Company had done promising business in its first two years: $11,327 in 1882 and $12,449 in 1883. But four years later, sales had dwindled to half that. In the 1888 annual meeting some stockholders doubted that the company should continue. Hough fought to keep his company alive, defeating by his one vote a resolution to liquidate and, after much argument, securing a hesitant decision to ". . . go it another year or as long as possible."

There was nothing wrong with Hough's belief that metal was superior to wood. Other manufacturers had applied it in everything from iron boots that never let you up to steel stayed corsets that never let you down. What was wrong was the product; the public was obviously not ready for iron windmills.

No wonder that when Clarence J. Hamilton, a windmill company employee and part-time inventor, showed his all-metal B.B gun to L. C. Hough, the company President exclaimed, "Clarence, that's a Daisy!" If it had happened today he would have said, "Clarence, that's fabulous." Then the first three letters of the company name (P.I.W.) along with the initial of the President (H) would have been fed into a computer and all possible combinations run for a brand name—probably WHIP. But things were simpler and more direct in those days and the superlative, Daisy, stuck.

Lewis Cass Hough, the first general manager of Plymouth Iron Windmill Company. Photograph was taken in 1890 when he was elected Michigan State Senator.

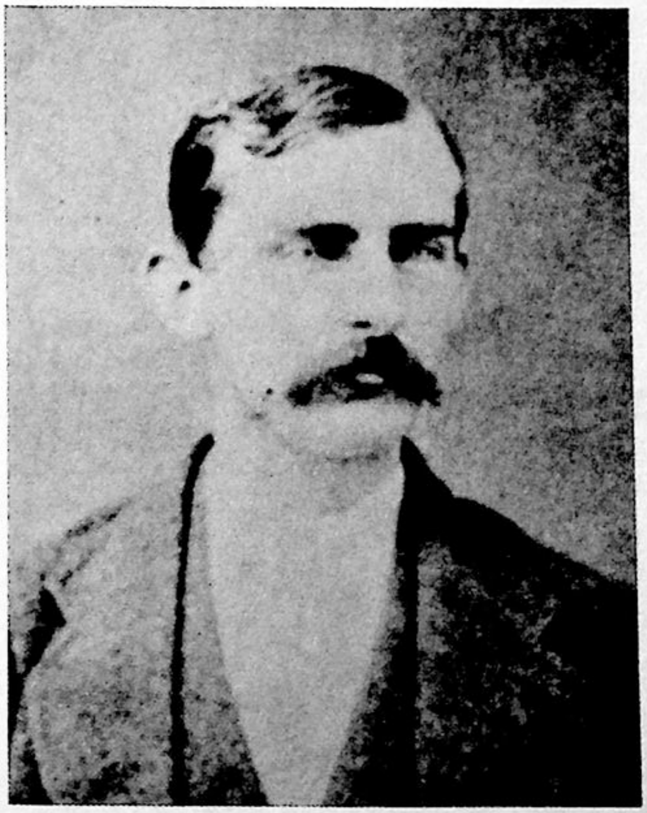
The wonder of the name is that nearly a century later no boy who talks about Daisys means flowers.

At the time Hamilton demonstrated his B.B gun to Hough, no patents had been issued. The first two Hamilton patents were issued on October 2, 1888 (Nos. 390,297 and 390,311). The first was issued only to Hamilton. The second was issued jointly to Hamilton and C. A. Pinckney.

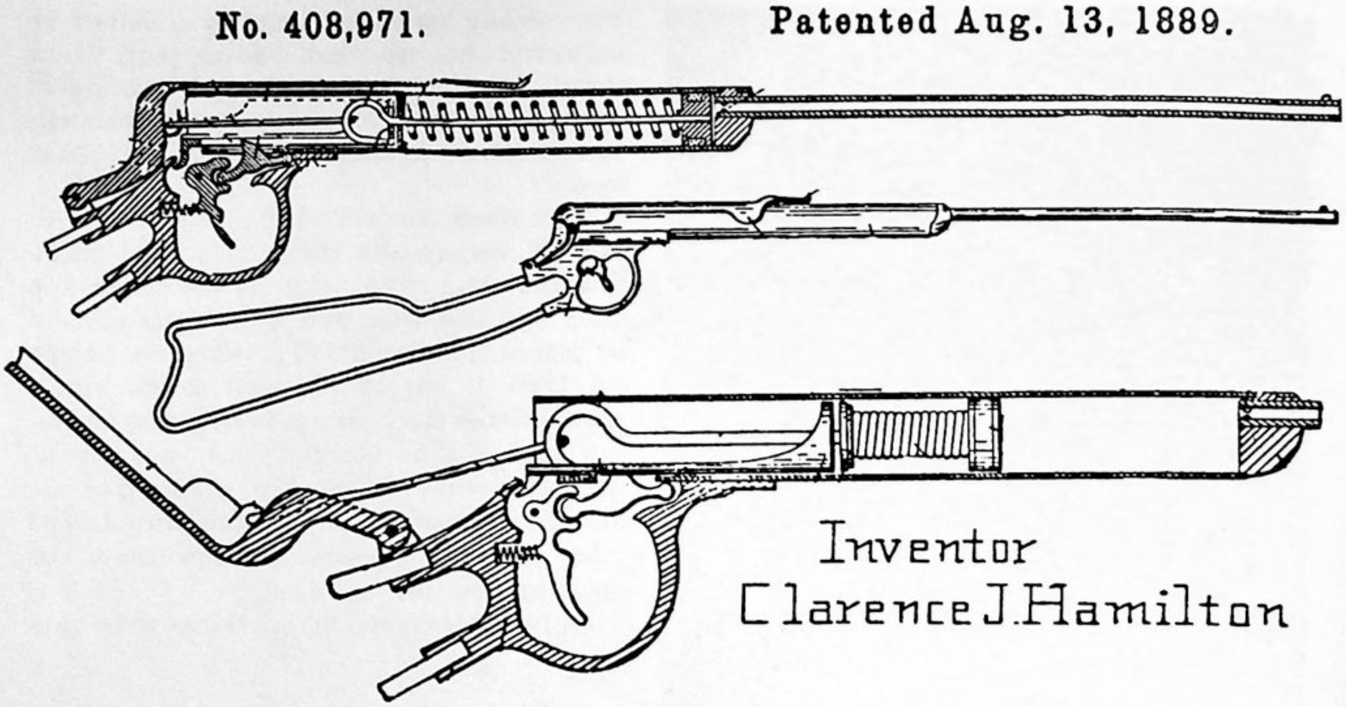
Hamilton's first design incorporated a long, slender lever inletted into the wooden stock and hinged at the wrist. The lever, when pulled down and forward, drew back the plunger and engaged its hook in the sear. A rear sight was also covered by the patent. The second patent principally involved an improved shot seat and loading port, which would accommodate the breech loading of darts. None of these early patent features was incorporated in the first *Daisy* production model.

Most likely, the rifle demonstrated to L. C. Hough was actually Hamilton's third design attempt. This rifle, with its distinctive top lever and cast iron frame, was later covered by patent number 408,971, issued on August 13, 1889. It was an all metal design with a wire skeleton stock, drawn brass plunger housing and a slim barrel. To boys then acquainted with wire-stocked pistols like the Stevens Hunter's Pet and the wire-stocked rifles of Frank Wesson, the new Daisy was an impressive toy.

Only prototypes of the Daisy were pro-



Clarence J. Hamilton, inventor of the all metal DAISY. Hamilton later sold his interest in Daisy and began manufacture of Hamilton boys' 22 caliber rifles based upon folded metal designs he had pioneered.

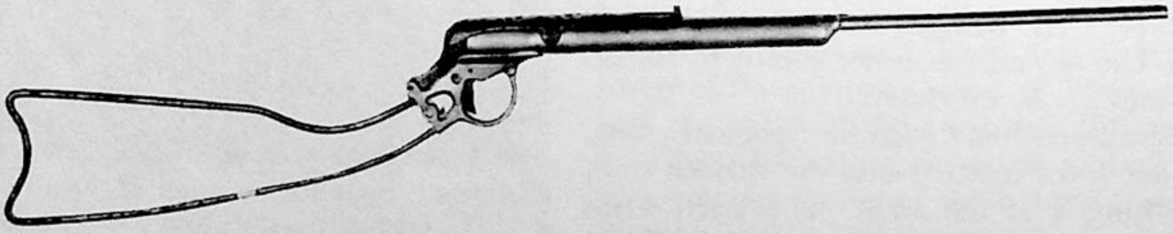


duced in 1887. Production was begun in 1888 on a trial basis to see if B.B guns, when offered as a premium with the purchase of an iron windmill, could stimulate lagging sales.

If the company principals were reluctant to abandon windmills in favor of toy air rifles, customers were not. Many a farmer recognized the utility of the B.B gun for keeping pests out of the barnyard and bought the premium while refusing the product. Roadweary salesmen reported that the little B.B gun was better than cash for obtaining a night's lodging along the road. Mill workers delighted in the guns and were soon lavishing more care and attention on them than the windmills. It wasn't long before the company's directors got the message.

For January 16, 1889, the minutes of the annual meeting contain the following notes:

> After talking over the condition of the company and the propriety of taking in something else with the mill business to manufacture, the following resolution was offered by O. R. Pattengill:
>
> Resolved that we adopt and accept the proposition offered by Mr. Hamilton and Root, the manufacturing of an air rifle recently invented by Mr. Hamilton, on the following conditions:



First model Daisy B.B gun with distinctive skeleton stock and top lever action was an immediate market success.

> That Mr. Hamilton and Root grant the sale right to the Plymouth Iron Windmill Company so long as they continue to carry on the manufacturing industry on a good paying basis that will be satisfactory to all parties concerned.
>
> But in case the company shall for some unforseen cause neglect or throw up the business then the sale right of the gun shall pass back to Hamilton and Root.

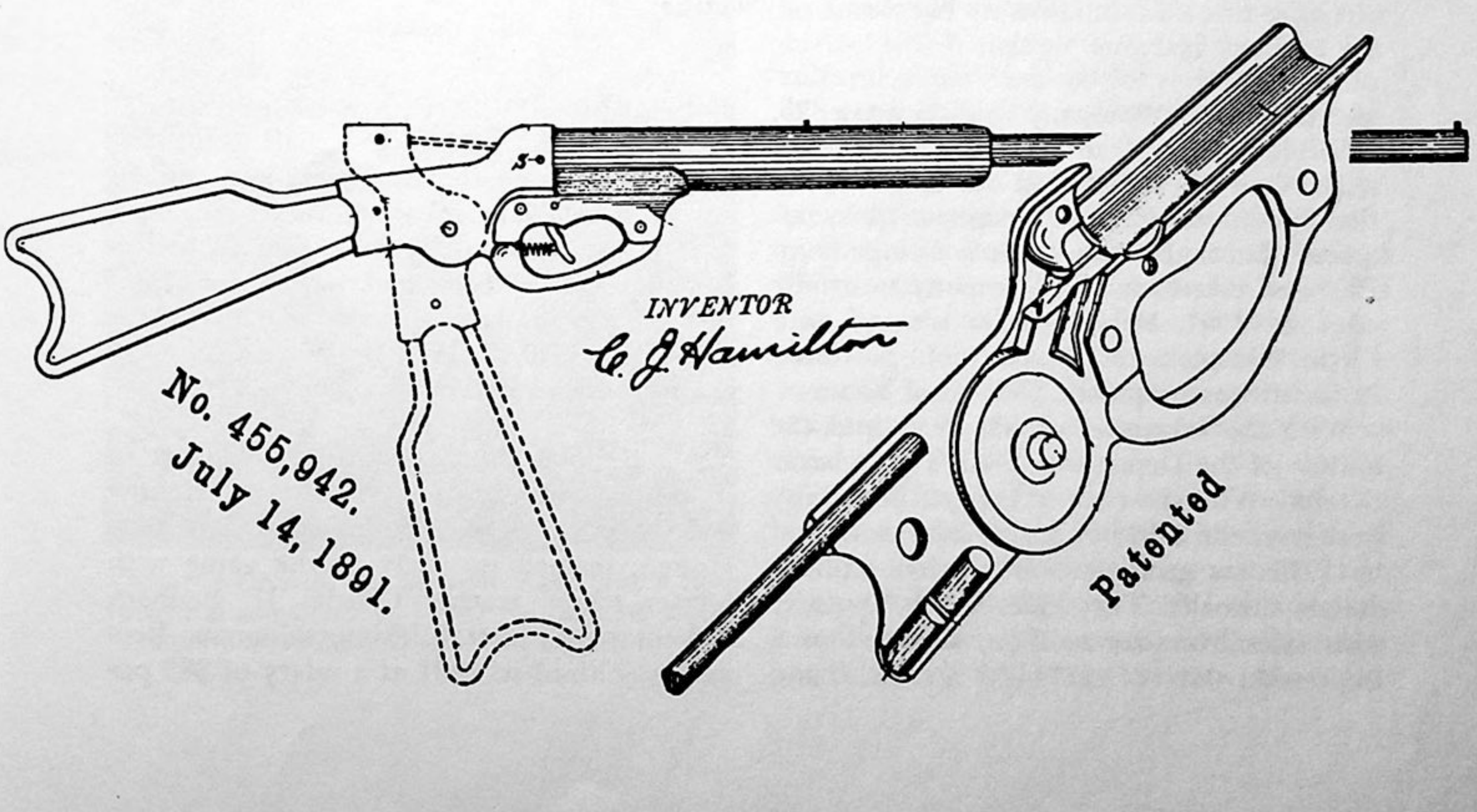
The last mentioned case never occurred. In its first full year of B.B gun manufacture the iron windmill company tripled its sales over the previous year to $15,416 and relegated the manufacture of windmills to second priority.

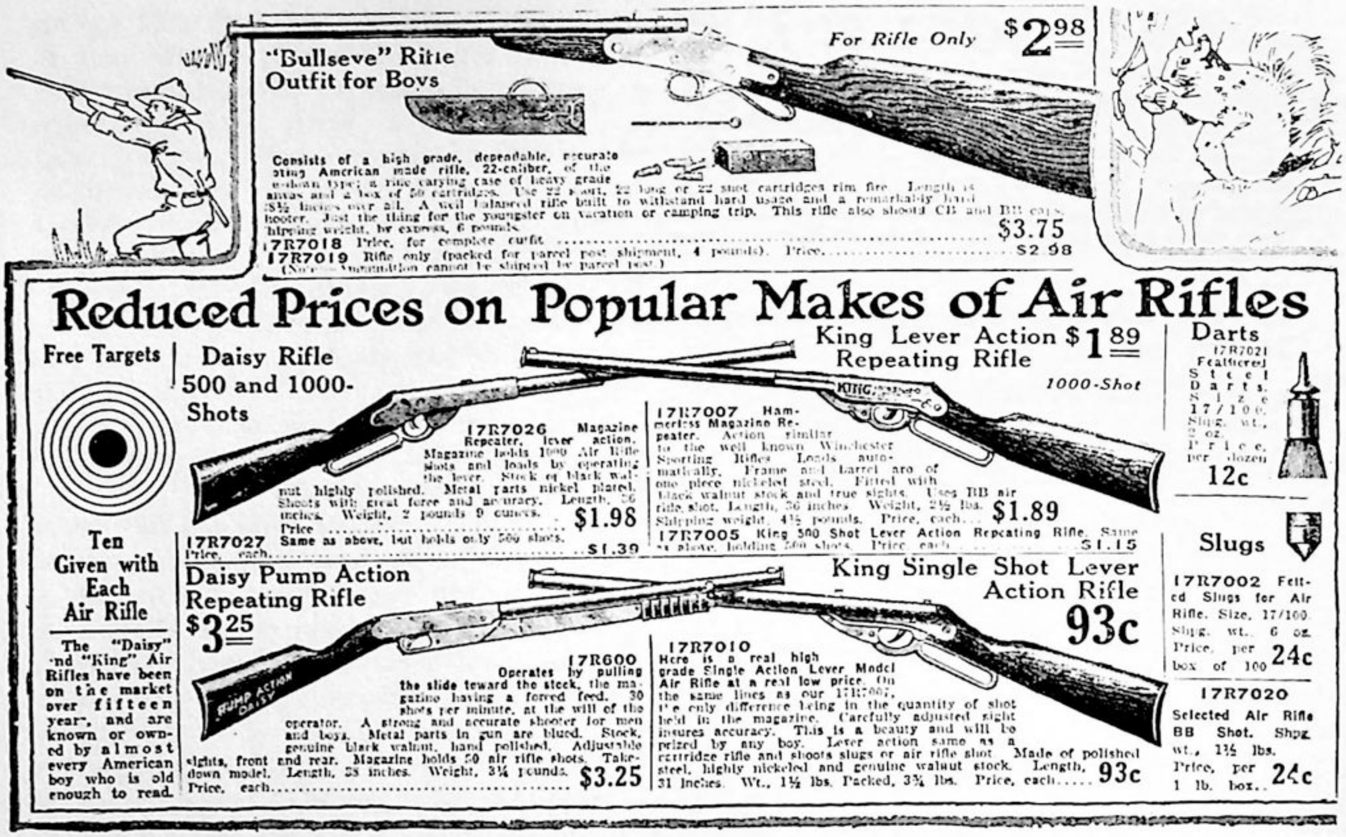
The prompt acceptance of Hamilton's all-metal B.B gun by Lewis Cass Hough and the quick action of the company in beginning its manufacture not only saved the Plymouth Iron Windmill Company from liquidation but gave it a two-year jump on the competition. By 1890, when sales again doubled to $30,696, there were already four other all-metal B.B guns on the market: the MATCHLESS, the PRINCE, the ATLAS, and the GLOBE.

The company did not stay with its top lever-action rifle for long. In 1891, Hamilton was granted patent number 455,942 for an improved B.B gun, which used the stock as a lever for drawing back the plunger. This was the first of the many Daisy break-open designs which, in one form or another, lasted until 1960. Aside from the obvious manufacturing economy in reducing the number of parts, Hamilton's break-open patent covered a strong hinge pin cast into the frame, making the Daisy one of the sturdier air rifles on the market. The wire stock was retained for one year and was then improved by the addition of a maple insert to fill the inside of the wire frame. The final improvement came in the form of an all-wood stock.

Hamilton's contributions to the Daisy Manufacturing Company were great but shortlived. His last B.B gun patent was issued in 1899, for an improved means of locking the break-open stock when it was closed. His interests then turned to the application of folded metal technology to .22 caliber rifles. The revenue from his B.B gun patents enabled him to establish his own manufacturing company in Plymouth, and he became famous for his inexpensive boy's .22 rifles.

The company changed its name to Daisy





"Bullseye" Rifle Outfit for Boys

For Rifle Only $2.98

Consists of a high grade, dependable, accurate shooting American made rifle, 22-caliber, of the as shown type; a rifle carrying case of heavy grade canvas and a box of 50 cartridges. Use 22 short, 22 long or 22 shot cartridges rim fire. Length is 28½ inches over all. A well balanced rifle built to withstand hard usage and a remarkably hard shooter. Just the thing for the youngster on vacation or camping trip. This rifle also shoots CB and BB caps. Shipping weight, by express, 6 pounds.

17R7018 Price, for complete outfit $3.75

17R7019 Rifle only (packed for parcel post shipment, 4 pounds). Price........ $2.98

(Note—Ammunition cannot be shipped by parcel post.)

Reduced Prices on Popular Makes of Air Rifles

Free Targets

Ten Given with Each Air Rifle

The "Daisy" and "King" Air Rifles have been on the market over fifteen years, and are known or owned by almost every American boy who is old enough to read.

Daisy Rifle 500 and 1000-Shots

17R7026 Magazine Repeater, lever action. Magazine holds 1000 Air Rifle shots and loads by operating the lever. Stock of black walnut highly polished. Metal parts nickel plated. Shoots with great force and accuracy. Length, 36 inches. Weight, 2 pounds 9 ounces. Price $1.98

17R7027 Same as above, but holds only 500 shots. Price, each........ $1.39

King Lever Action Repeating Rifle $1.89

1000-Shot

17R7007 Hammerless Magazine Repeater. Action similar to the well known Winchester Sporting Rifles. Loads automatically. Frame and barrel are of one piece nickeled steel. Fitted with black walnut stock and true sights. Uses BB air rifle shot. Length, 36 inches. Weight, 2½ lbs. Shipping weight, 4½ pounds. Price, each... $1.89

17R7005 King 500 Shot Lever Action Repeating Rifle. Same as above, holding 500 shots. Price, each........ $1.15

Darts

17R7021 Feathered Steel Darts. Size 17/100. Shpg. wt., 2 oz. Price, per dozen 12c

Slugs

17R7002 Felted Slugs for Air Rifle. Size, 17/100. Shpg. wt., 6 oz. Price, per box of 100 24c

17R7020 Selected Air Rifle BB Shot. Shpg. wt., 1½ lbs. Price, per 1 lb. box.. 24c

Daisy Pump Action Repeating Rifle $3.25

17R600 Operates by pulling the slide toward the stock, the magazine having a forced feed. 30 shots per minute, at the will of the operator. A strong and accurate shooter for men and boys. Metal parts in gun are blued. Stock, genuine black walnut, hand polished. Adjustable sights, front and rear. Magazine holds 50 air rifle shots. Takedown model. Length, 38 inches. Weight, 3¼ pounds. Price, each........ $3.25

King Single Shot Lever Action Rifle 93c

17R7010 Here is a real high grade Single Action Lever Model Air Rifle at a real low price. On the same lines as our 17R7007, the only difference being in the quantity of shot held in the magazine. Carefully adjusted sight insures accuracy. This is a beauty and will be prized by any boy. Lever action same as a cartridge rifle and shoots slugs or air rifle shot. Made of polished steel, highly nickeled and genuine walnut stock. Length, 31 inches. Wt., 1½ lbs. Packed, 3¾ lbs. Price, each..... 93c

Clarence J. Hamilton's inexpensive folded metal 22 caliber rifles (top) were favorites of many generations of boys. They were often, as in this 1917 mail order catalogue, less expensive than top-of-the-line B.B guns such as Daisy's Number 25 (lower left).

Manufacturing Company on January 25, 1895. It remained at Plymouth, Michigan, until April 30, 1958, when the entire operation moved to Rogers, Arkansas. Daisy acquired James Heddon's Son's Company in 1960 and created a third company to handle sales. In 1967, Daisy-Heddon merged with Victor Comptometer Corporation, retaining its identity as a separate Division of Victor.

With the exception of war years and the middle of the Depression, Daisy's sales never faltered. With the turn of the century, Daisy went over the $100,000 a year sales mark and by 1916 was grossing over one-half million dollars annually. They entered the Twenties with sales over one million, slumped to a Depression low of $278,000 in 1933 and sprang back in 1934 with a second million-dollar year. Sales dipped to half a million annually through the war years and topped one million again in 1946, increasing at a rate of one million dollars a year until the Korean War. Sales soared to eight million in 1955 and the ten million dollar mark was reached in 1959. In 1967 Daisy went over the twenty million dollar sales mark.

But the real Daisy story is recorded not in its millions but in its men. The determined and tenacious Daisy founder, Lewis Cass Hough, teamed up early in the game with former school teacher Charles H. Bennett, the company's first full-time salesman. Bennett was hired in 1891 at a salary of $85 per month with the understanding that if the sales for that year reached 80,000 guns he would be given a bonus of $15 per month. An additional clause made very clear that if Bennett did not earn the company the money he was paid, they were to tell him so and he was not to be further engaged. This latter clause proved to be hardly necessary.

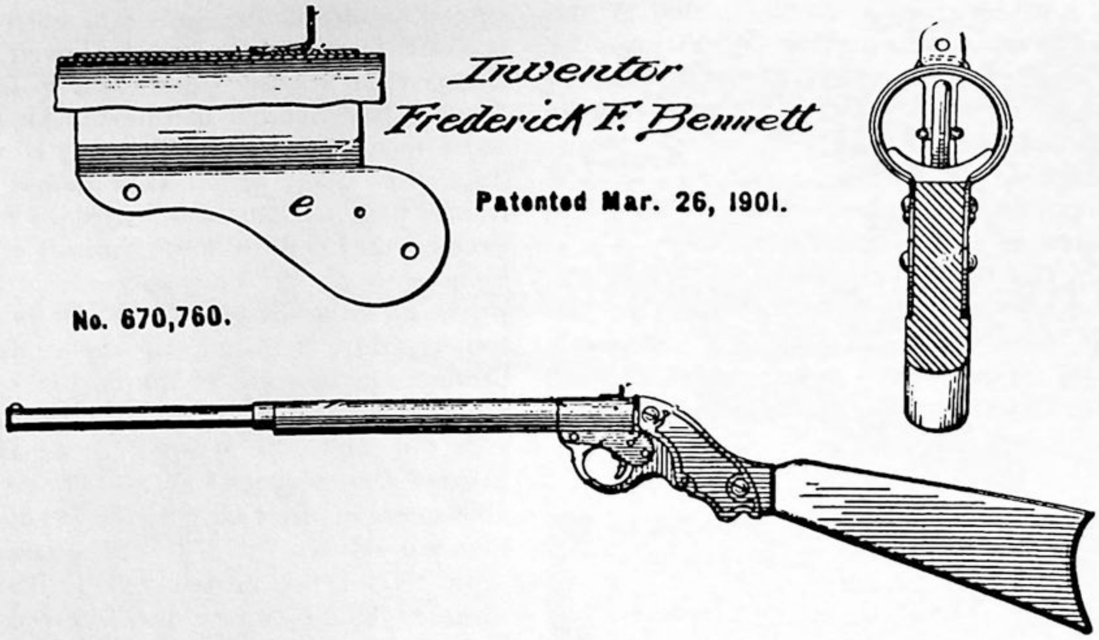
All of the business acumen of Hough was matched by the sales talent of Bennett. On his first sales trip to Chicago, the new Daisy salesman showed his samples to Hibbard Spencer Barlett and Company. They promptly agreed to buy 10,000 guns (the entire year's production in those days) if given an exclusive right to the sale of guns in Chicago. The startled Bennett had to stall for time in order to find out if the Company could produce that many guns. In response to his frantic wire, the Board of Directors met and decided they could fill the order if given six months to do so. They met the order and produced an additional 10,000 for other customers, thus doubling the previous year's production. In spite of the entrance of two more B.B guns into the competition, the STERLING and the MAGIC, Bennett's sales boosted the company's third full year of air rifle manufacture to a gross of $44,308. Bennett was rehired in 1892 at $100 per month.

Versatile Charles H. Bennett was Daisy's first full-time salesman in 1891. He became Daisy President in 1920 and retired from that office in 1956.

In 1900 Daisy introduced the Twentieth Century Model. It was the first Daisy with a sheet metal frame, a development of F. F. Bennett. His patent, granted March 26, 1901, solved the problem of soldering an iron casting to the sheet metal plunger housing. Although his patent drawings show a cast iron trigger guard and grip frame, these were soon also changed to folded sheet metal.

While Daisy's competition still had its eyes on the hardware store across the street, Charles Bennett had his on the world. In 1907 he embarked on a round-the-world sales trip during which neither language barriers nor cultural differences could slow him down. When a particularly influential Chinese Mandarin refused to believe the sample gun Bennett carried was a harmless toy and denied him import papers, Bennett bent over, flipped up his coattails, and pointing at the seat of his pants, directed the ruler to fire away. He did. Bennett never flinched and came home standing up with the Chinese market agreement in his hands. For many years, China accounted for 30 percent of Daisy's export market.

The B.B gun Bennett carried around the world was the 1904, 1000-shot lever-action, in many ways the most attractive air rifle Daisy ever produced. A large rifle with a half-round, half-octagon barrel and finely shaped walnut stock with deep crescent metal butt



plate, it resembled the best of the Winchester and Marlin lever-actions of the period.

Daisy's first lever-action design was largely the work of W. J. Burrows, whose patent was granted on July 19, 1904. It is more interesting and significant than most Daisy patents because it incorporates many features that remain standard to this day: the loading port cover attached to the shot tube, the B.B gateway at the breech end of the shot tube, and the threaded shot tube end.

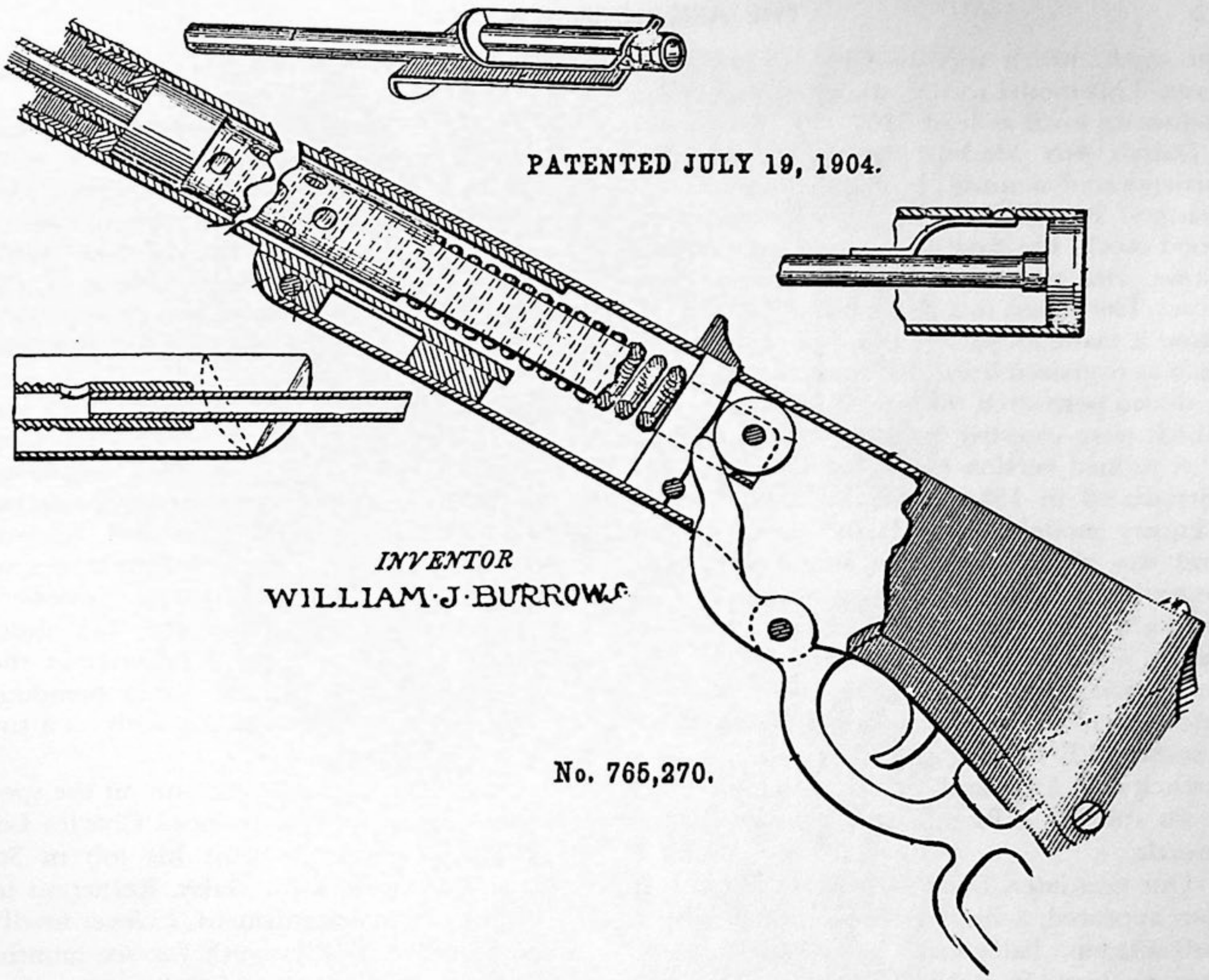
Apparently the cost involved in threading the plunger stop and end of the shot tube in the manner used with lever-actions was prohibitive for lower priced guns. Daisy's next patent was granted to Edward Hough, son of the company's founder, for a method of locking the shot tube in the gun via a keyway in the barrel housing to hold the front sight from moving forward. This simple shot tube locking arrangement appears on many early break-open single shot and repeating Daisys.

Bennett's overseas sales trip had one unanticipated effect. Soon after he returned, a profusion of outright copies of Daisy designs by German, British, French, and Japanese manufacturers appeared. The copies were marketed both overseas and in America. There is no indication that these guns were any economic threat to Daisy; more likely, Daisy people regarded them for what they were: the sincerest form of flattery.

Charles Bennett became General Manager of Daisy in 1902. He continued to make sales trips for the company until he became President in 1920. This position he occupied until his death, at age 93, in 1956.

In addition to the talents of Charles Bennett, the Daisy Manufacturing Company had in its favor a quality product. Daisy was the only company besides the Markham Air Rifle Company whose facilities were used solely for the manufacture of B.B guns. From the beginning, the Daisy line underwent almost constant revision in both design and manufacture.

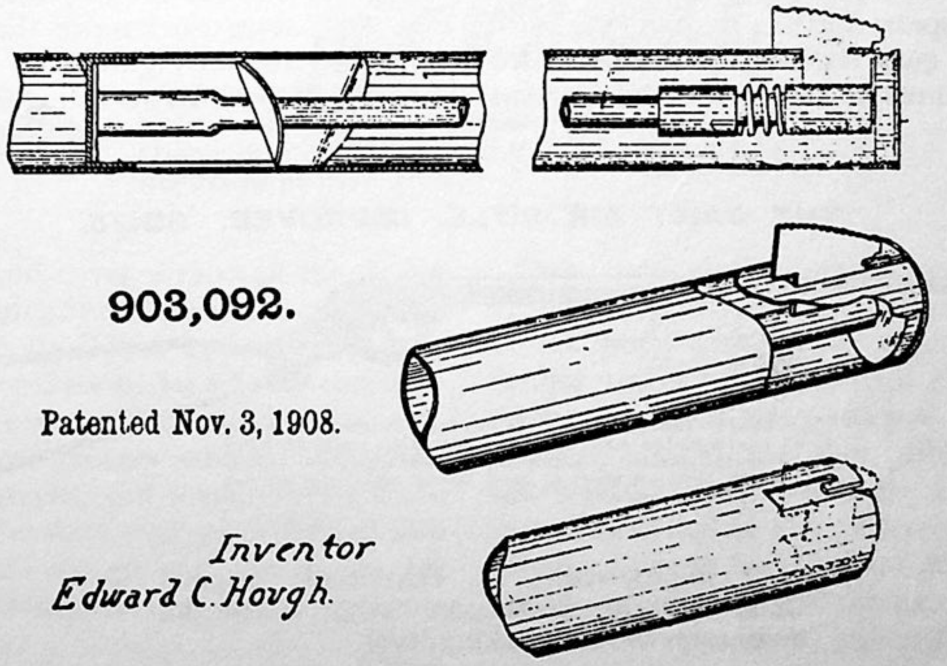
The 1888 Daisy/Hamilton model was manufactured for two years; it had a brass frame in 1888 and a cast iron frame in 1889, both nickel plated. The top cocking lever was abandoned in the 1890 Daisy 2nd Model in favor of a break-open action. Both models had wire skeleton stocks. The 1891 Daisy 3rd Model added a maple wood insert to the skele-



PATENTED JULY 19, 1904.

INVENTOR
WILLIAM·J·BURROWS

No. 765,270.



903,092.

Patented Nov. 3, 1908.

Inventor
Edward C. Hough.

ton stock, which increased the price by 15 cents. This model was produced in decreasing quantities until at least 1897.

Daisy's 4th Model, introduced in 1892, incorporated a number of important design changes. It was the first model with an all wood stock, the first with an all sheet metal frame, and the first with a removable shot tube. The latter was the most welcomed because it made for easy removal of obstructions such as oversized lead B.Bs from the shot tube and also permitted the use of feathered darts which were inserted from the breech end.

A refined version of the fourth model was introduced in 1901 as the Daisy Twentieth Century model. It was Daisy's first repeater and was also offered as a single shot. The repeating mechanism was a simple gravity feed affair which used a magazine tube (actually a reservoir) beneath the barrel. To load each shot, the shot tube was partially withdrawn and given a half turn to allow another B.B to enter the shot tube. With a capacity of 350 shots, it was a happy relief from spitting B.Bs one at a time down the muzzle.

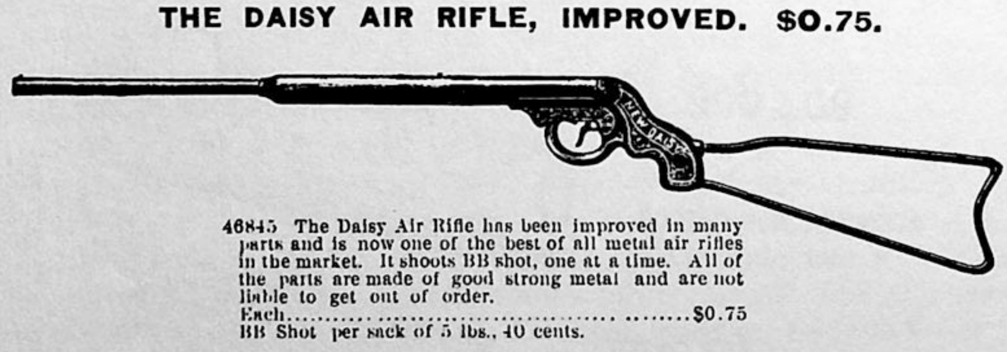
One year later, Daisy's first lever-action B.B gun appeared, a big 500-shot repeater with a half-octagon, half-round barrel and a deep crescent butt. In 1904, Daisy's first 1000-shot repeater, the only Daisy prior to 1960 with a butt plate, appeared. It was the top of a Daisy line offering guns retailing for a dollar, two dollars, and three dollars apiece: break-action 350-shot, a lever-action 500-shot repeater, and a 1000-shot lever-action repeater.

During the early 1900s, Daisy's competition was continually growing. Guns with such names as CYCLONE, DEWEY, VICTORY, and BULLS EYE popped up at the rate of one or two every year. While none of these guns alone accounted for any large portion of the market, the total impact of the competition kept Daisy ever on the lookout for new and better B.B gun designs.

When Charles Lefever, a member of the well known family of St. Louis shotgun designers, wrote to Daisy in 1912 inquiring about their interest in his newly designed pump-action B.B gun, Daisy jumped. Edward Hough went to St. Louis immediately to give the new gun a close look. He was impressed. Lefever's gun closely resembled the slide-action shotguns becoming so popular at the time, and Hough could see the tremendous potential of the new design not only as a toy but as a training device.

Edward Hough bought the gun on the spot and more importantly convinced Charles Lefever that he ought to quit his job in St. Louis and go to work for Daisy. Reluctant to make a long term commitment, Lefever finally agreed to move to Plymouth for six months to finish the development of the pump-action B.B gun. He stayed for 44 years during which time he was granted more than 60 patents pertaining to Daisy guns.

Lefever's first patent, issued in April, 1915,



THE DAISY AIR RIFLE, IMPROVED. $0.75.

46845 The Daisy Air Rifle has been improved in many parts and is now one of the best of all metal air rifles in the market. It shoots BB shot, one at a time. All of the parts are made of good strong metal and are not liable to get out of order.
Each..$0.75
BB Shot per sack of 5 lbs., 40 cents.

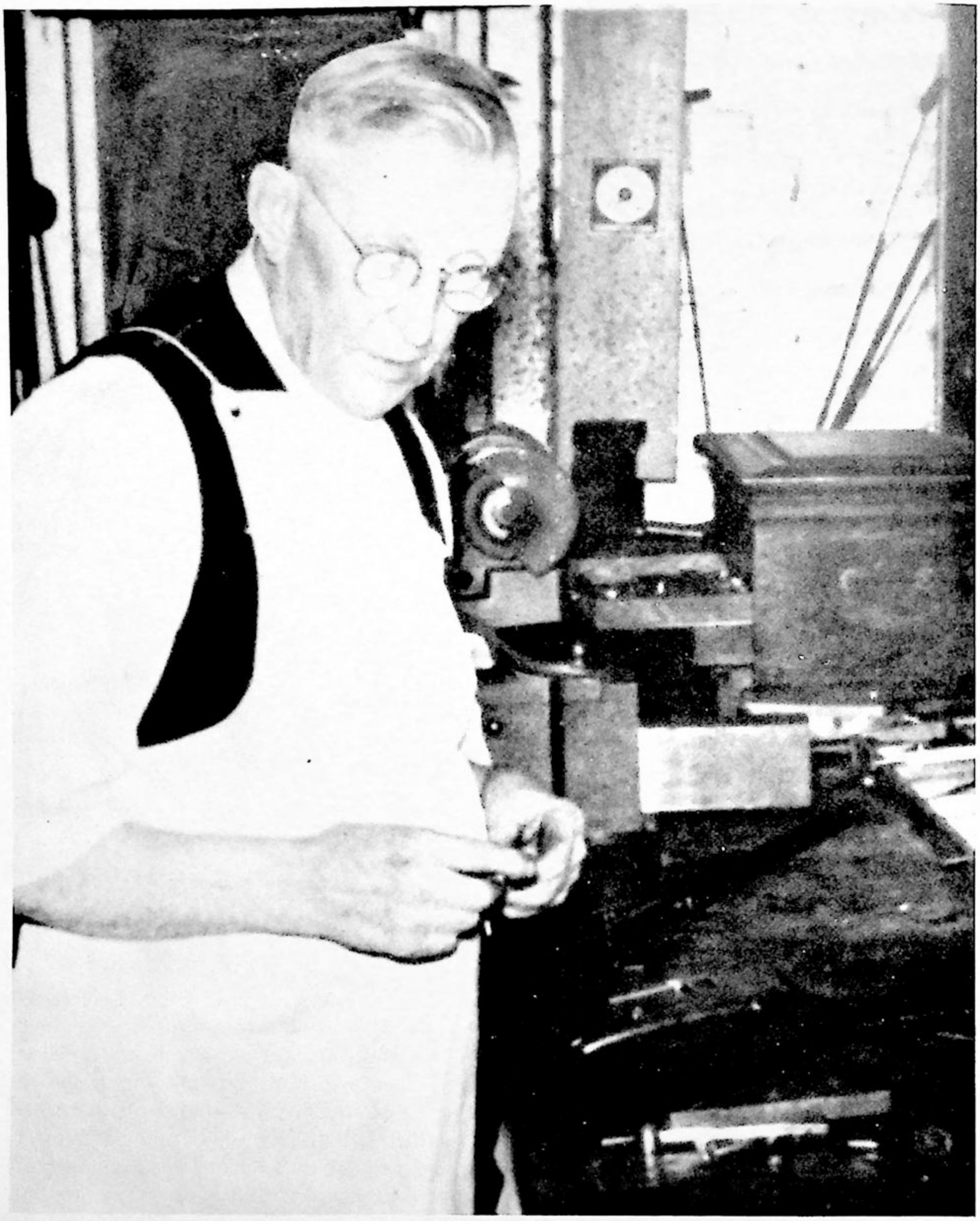
First improvement of Hamilton's original Daisy was this breakopen design which did away with the top cocking lever.

Turn-of-the-century views inside Daisy plant. Basic fabrication processes remained unchanged until the introduction of substitute materials in the fifties.

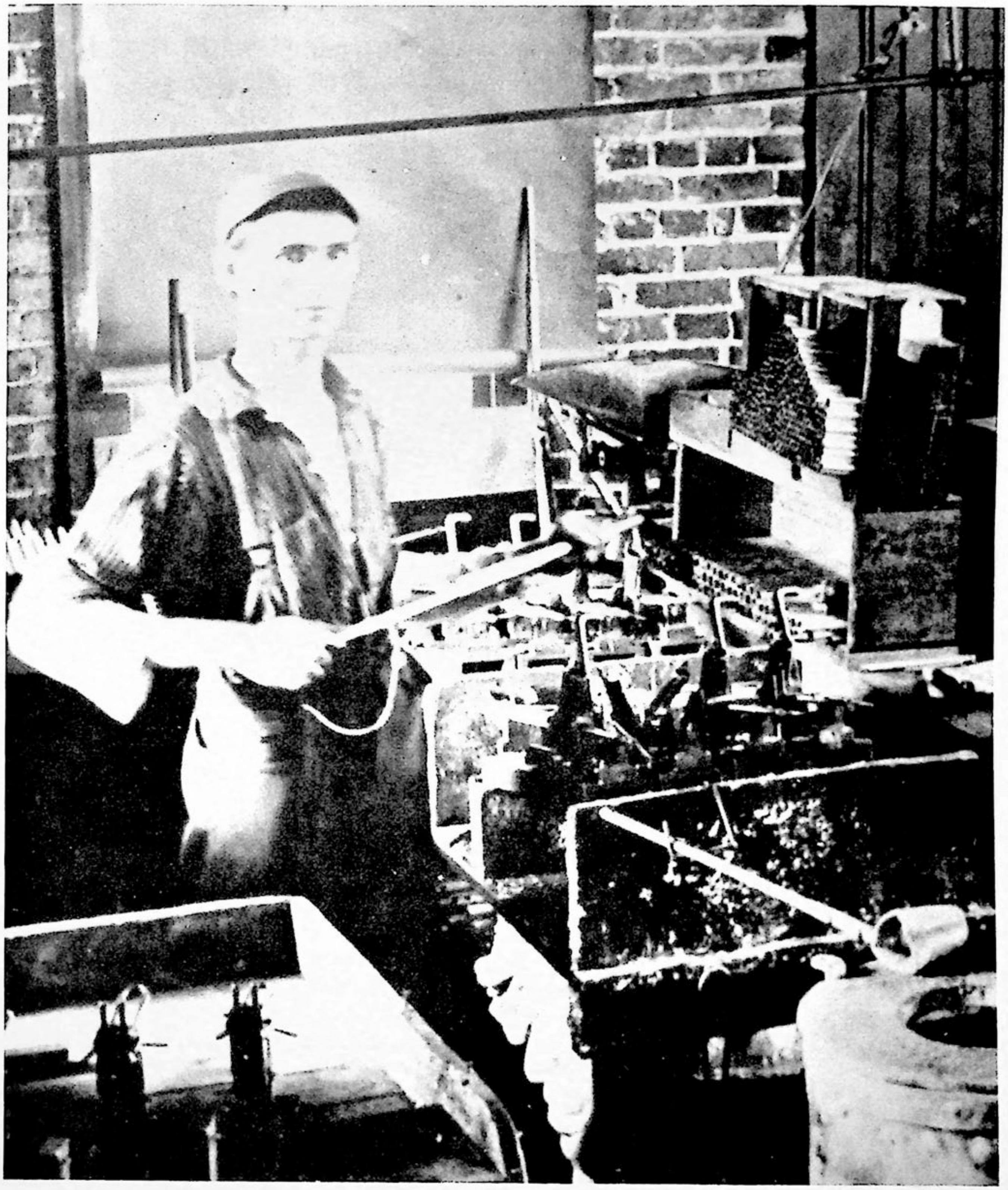
was complex and covered most of the design features for which the Number 25 pump was to become famous. These included the basic elbow pump operation, take-down construction, and screw elevated rear sight.

Later Lefever patents covered improved plungers, forestocks, and sears. Only a small number of these were ever incorporated into the Number 25 design and the model has remained substantially unchanged over the years.

One particularly interesting Lefever-designed pump used a coiled spring contained in the butt stock of the rifle to impel a slender rod forward through the frame to the piston which was contained in the usual position behind the shot tube. Whatever mechanical or manufacturing advantages, if any, this complex and indirect method of driving a piston had over traditional designs was never justified to Daisy executives. Only models were produced, although the one on



Most prolific of all B.B gun designers, Charles Lefever originally came to Daisy to spend six months in development of his pump-action Number 25. He stayed with Daisy 44 years.



Ernie Burden, pictured here in 1913, and his brother Art, worked a combined total of 109 years for Daisy. Burden descendants are still employed by Daisy; the family has amassed a 182 year employment record with the company.

display in the Daisy International Air Gun Museum is so well finished it looks like a production model.

Among other things, Lefever patented an all metal water pistol, the first successful one produced. It closely resembled a Savage 1910 automatic pistol and enjoyed tremendous sales. It was rapidly followed by at least two other models of similar design. Like many Lefever inventions, the all metal water pistol had many imitators.

Lefever's pump B.B gun was an immediate success. It had a slightly higher muzzle velocity (375 fps compared to 350 fps) than the other Daisys, and for more than 40 years was the top of the Daisy line. During the twenties, when Daisy refused to give jobbers prices to Sears Roebuck, the giant mail order house began manufacturing its own B.B gun through Upton Machine Company. They still paid full price to Daisy for the Number 25 because customer demand was so great. Even in the heyday of the Red Ryder Carbine's popularity, the Number 25 was still the gun most boys aspired to. In uninterrupted production since 1912, 15 million have been produced to date. Assembling a complete set of all model variations of the Number 25 is a challenge worthy of any collector.

The Lefever deal was neither the first nor the last of Edward Hough's contributions to Daisy. Following the death of his father in 1902, Edward had become secretary and treasurer. During those early years, he was the brain behind the purchase of many of the smaller companies among Daisy's competition, the most important of which was the Markham Air Rifle Company in 1916.

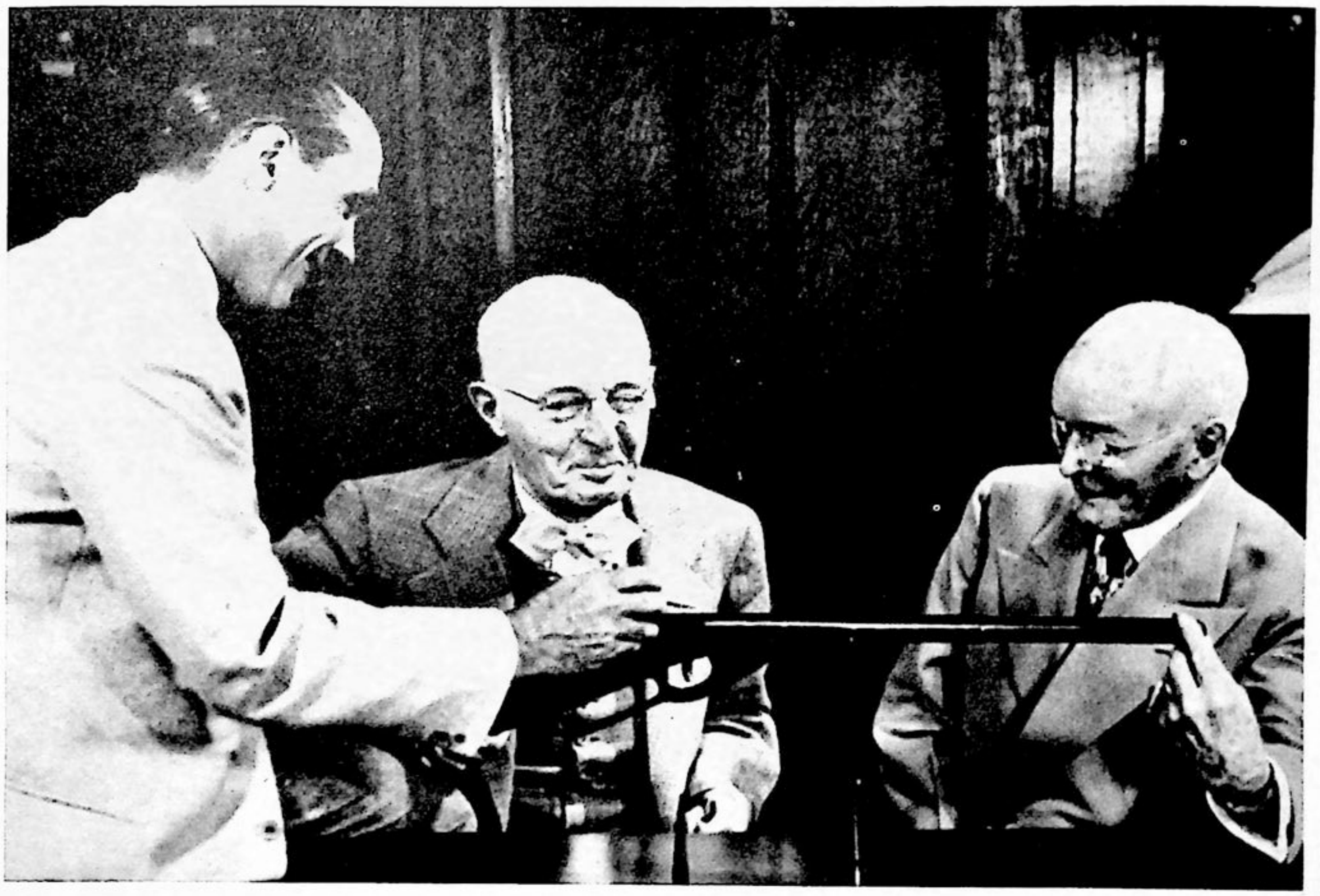
Hough was as soft hearted with people as he was hard headed with business. A quiet man compared to Charles Bennett, Hough displayed his affection for the people of Plymouth through many anonymous philanthropies, including gifts of land and equipment for public parks. Out of Hough's concern for the welfare of Daisy employees, the company instituted comprehensive health, accident, and life insurance for all workers at company expense. For many years, company workers were paid annual bonuses in gold coin wrapped in brightly colored miniature Christmas stockings. During the heights of the Depression, when other companies were paying workers in scrip, Hough journeyed to Montreal to borrow against his Canadian Life Insurance policies to raise cash for employee pay envelopes. He started a habit of voluntary pay increases for employees that continues to this day. Fourteen upward adjustments in hourly wages have been made at the Rogers, Arkansas, Plant since 1958.

Edward Hough served Daisy as secretary and treasurer, vice president and treasurer, and finally president. He died in 1959 in Plymouth at the age of 86.

In 1916, with the acquisition of the Markham Air Rifle Company and the Lefever pump gun for starters, the team of Charles Bennett and Edward Hough launched the company on a two-decade period of design improvements which resulted in the introduction of dozens of Daisy models.

In 1913, the first of the H designs, named after its designer, Edward Hough, was marketed. It was the first all sheet metal one-piece frame and barrel design and the first to incorporate the then new spot welding techniques instead of solder. Prior to the Hough model, Daisy air chambers were sealed by either an external patch hand soldered to the underside of the barrel or a seamless brass tube that required no patch. In the Hough model, the seam along the bottom of the gun was butt welded—a delicate precision job in those days. It took almost 15 years of experimentation to perfect spot and butt welding of sheet metal. Not until 1930 did Hough's one-piece design become standard.

Inspecting the finished spot weld posed a tricky problem. If too much heat had been used in the weld, the metal burned through and the result could be detected on visual inspection. But if not enough heat was used, the plunger might only be tacked into the frame envelope and later break lose from repeated slams of the plunger head. Fred Lefever and young Cass Hough worked out



Cass S. Hough, Edward C. Hough and Charles H. Bennett together in 1948, examine a model of the popular Daisy 102 Cub.

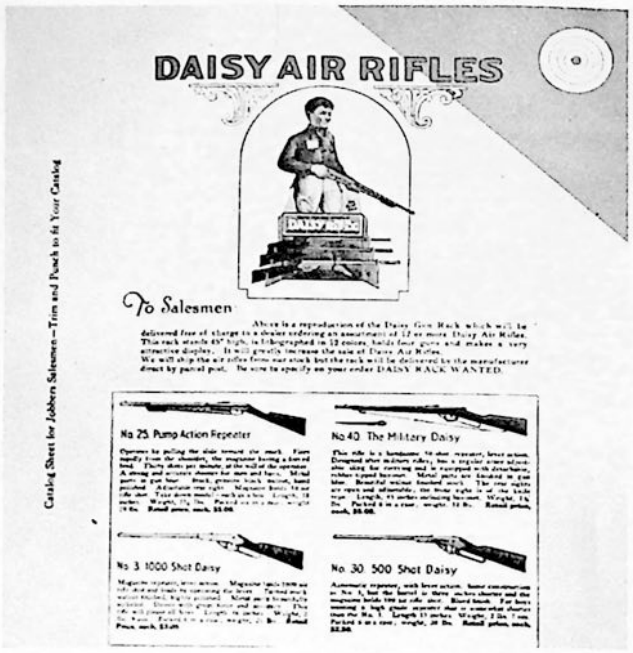
a cumbersome but effective method for strength testing the air chamber weld. Placing the frame envelope over a post-like mandril resting against the plunger face, a workman hit the upturned end of the barrel with a rawhide mallet. If the plunger held, the gun passed. This inspection method was used until the installation of computer controlled automatic welding machines.

In the meantime, proper placement of the air chamber patch was assured in the Number 30 Daisys by providing a tab at the end of the air chamber patch to hold it in place during soldering. This design feature among others was incorporated into two patents granted to Lefever in June 1926 and October 1928. The earliest, number 1,589,975, was concerned with methods for securing the shot tube by a threaded breech and blocking the loading post just behind the front sight. This design with minor modifications is still used on Daisy lever-actions today. The second patent, number 1,686,702, pertained to the means of cocking the plunger by means of a longer arm on the forward end of the lever.

This design was maintained in both the Number 30 and the Number 11 Model 29. But the external hand soldered patch was only a temporary design awaiting replacement by reliable methods for spot welding.

During this same period, Daisy engineers were contending with the problem of improved shot. Lead was steadily becoming more expensive and steel less. When steel shot was first introduced in 1925, a boy could get about twice as much shot for his money than he could if he bought lead.

The steel B.Bs called for design changes, however. Lead B.Bs were retained in the shot tube by a shot seat: a slight constriction of the tube at the breech end. Upon firing, the B.B was literally swaged down as it was forced past the constriction and up the tube. This caused two problems with steel shot. First, the steel did not swage and the constriction had to be reduced. Secondly, the air tube in repeaters (the rod on the end of the plunger head which was withdrawn from the shot tube on cocking and allowed a B.B to fall into the tube and then re-entered upon firing to start the B.B and block the passage of more B.Bs into the tube) soon became battered on the end from hitting the steel shot. The solution was a thin wire spring fitted into the slot on the end of the shot tube which held the B.B in place but could be easily forced out of the way to allow the shot to pass up the tube on firing. One of the ways to tell early repeaters from later ones is the presence or absence of that spring.



DAISY AIR RIFLES

Catalog Sheet for Jobbers Salesmen—Trim and Punch to fit Your Catalog

To Salesmen

No. 25 Pump Action Repeater

No. 40 The Military Daisy

No. 3 1000 Shot Daisy

No. 30 500 Shot Daisy

Large lithographed window displays such as the one pictured were popular promotional items in the 20's. Shaggy haired Daisy Boy featured in advertising for two decades was once the target of parent and school teacher criticism for his unkempt appearance.

Just prior to World War I, Daisy introduced a military model B.B gun complete with sling, dummy bolt action and rubber tipped bayonet. The Military Model 40 Daisy was basically a lever-action repeater to which was added a full military style stock. The gun was popular through the late teens and early twenties. However, few of these military models seem to have survived intact and the author has seen only one complete specimen, and that in the Daisy museum. Surviving models are apparently rather rare.

The military model signaled the beginning of the blued finish period in Daisy manufacture. Until shortly before World War I, all Daisy guns had been nickelplated. This was due partly to the fact that many of the gun parts were of cast metal or drawn brass with air chamber plates soldered and could not be effectively blued. Partly too, early bluing processes required a careful and time consuming pre-polishing of the metal followed by a tedious bluing process. In other words, for a blued finish to be practical, a design had to be found which used all ferrous metal and reduced hand labor. Once the problem of fabricating an all sheet metal one-piece frame and barrel with an effective air chamber seal was perfected, more and more Daisy models were offered with blued finishes.

A rather unusual finishing process used on some Model B lever-actions and Number 25 pumps during the middle and late twenties was black nickel. The process was invented by a Plymouth, Michigan, plating expert who worked part-time with Daisy. Beginning with a bright nickel finish, the black nickel was then applied, resulting in a remarkably glossy black which resembled Japanese lacquer. The new finish was offered as an extra cost option and only a small number were produced. From specimens examined, the finish must have been quite fragile and what remains today on the average specimen looks like

Relatively few Daisy's were produced with the extra cost black nickel finish shown on this model.

fragments of black paint. A perfect specimen would be quite a find.

By the mid-twenties, many Daisy models were offered with either blued or nickel finish. After 1930, bluing became the most common finish because of the prohibitive expense involved in polishing the nickel plate. By that time a more efficient hot dip bluing method had replaced the earlier one and required less polishing. Nickel became identified with deluxe models and blue became identified with standard models. By 1935, only two models were regularly offered in nickel plate: the little #102, 350 shot lever-action, and the bigger Buzz Barton Super Special. The metal finishing situation had reversed itself completely.

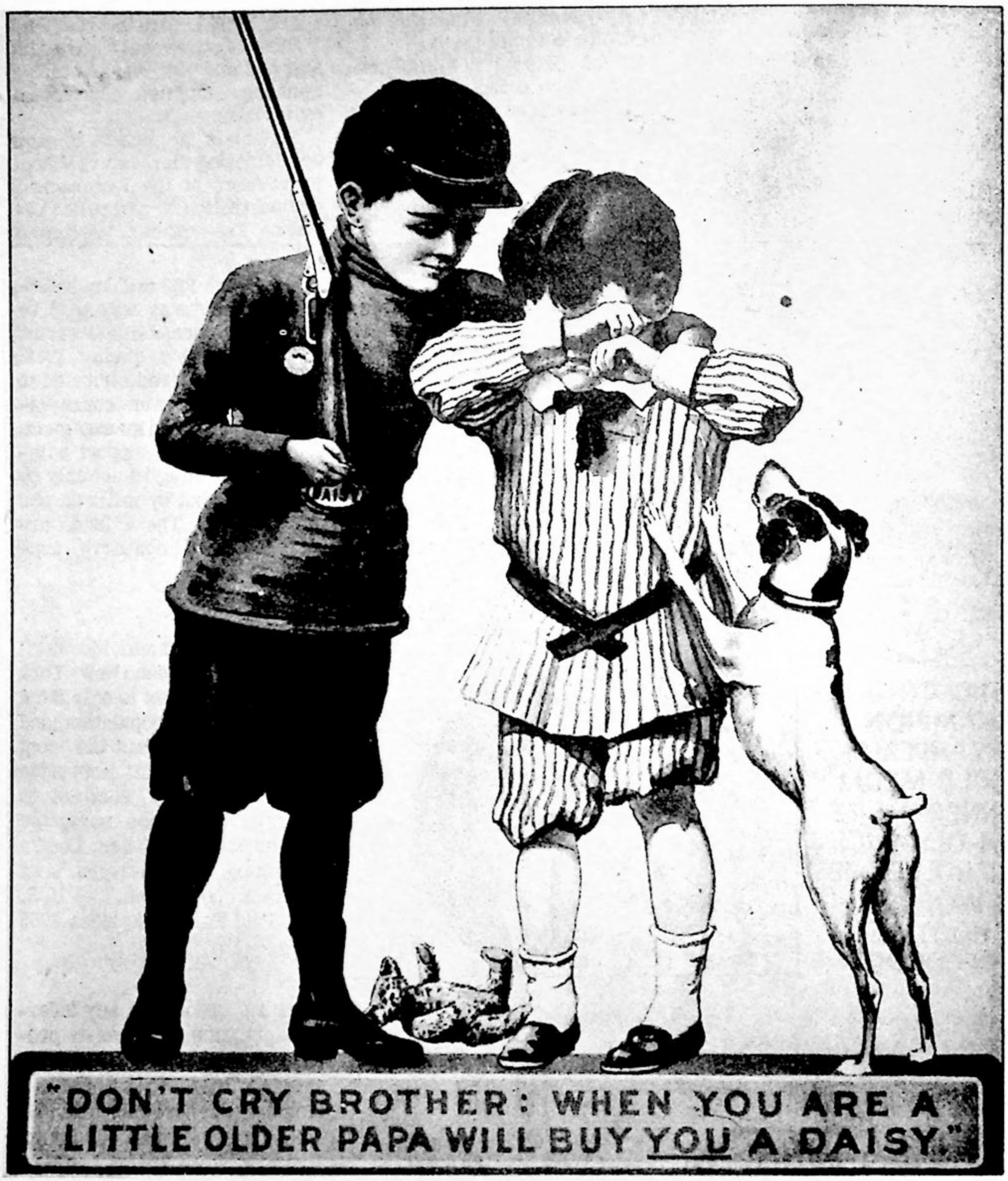
In sharp contrast to other B.B gun manufacturers, Daisy was a constant advertiser of its products. From a small start in 1895, when $2000 was appropriated for poster advertising, Daisy consistently increased its advertising budget. By 1900, when sales amounted to $130,513, nearly 15 percent of that was spent on advertising. While early promotional materials were primarily for window display, they were successful. In 1917, *The Farm Journal,* when offering a Daisy B.B gun as a premium for subscription sales could say, ". . . the Daisy 350 shot repeater (is) so well-known to boys everywhere as to make description unnecessary." Daisy had already become generic for B.B guns.

By the late teens, Daisys had become associated almost exclusively with retail store sales while the Markham product, the Kings, became known as a large mail order and premium house item. At the turn of the century, and for shortly thereafter, Daisy's competitors had dominated the premium market. By the twenties, with smaller companies out of competition, both Daisys and Kings began to appear as premium items for the many seed and greeting card companies who used children as their salesmen.

With Charles Bennett's already outstanding record as salesman and general manager, one might have guessed that when he became president in 1920, the company was going to concentrate at least as much upon product promotion as it had upon management. In the same year, Edward Hough became vice president and treasurer. Sales for that year went over the million mark for the first time. With an average wholesale price of a dollar, this meant that better than one million units were moved in that year.

In 1923, Cass Hough, son of the Daisy president, Edward Hough, and grandson of the founder, Lewis Cass Hough, first began to work for the company. During his summers home from college, young Cass worked as a missionary salesman contacting dealers around the country. So successful was the young Hough in establishing goodwill for the company that such sales representatives became a regular part of the Daisy promotional procedure from that time on.

After graduation in 1926, Cass Hough began teaching astronomy at the University of


DAISY
"DON'T CRY BROTHER: WHEN YOU ARE A LITTLE OLDER PAPA WILL BUY YOU A DAISY."

In this early 20th Century poster, Daisy promoted B.B guns as an integral part of growing up. The theme has remained dominant in the company's advertising for over seventy years.

Michigan. It was not long however, before he left teaching to go to work full-time with Daisy. In 1928, he was sent to the Markham Air Rifle Company as secretary and treasurer and the following year also took over the job of vice president of sales. It was obvious from the beginning that whatever Cass Hough was supposed to learn from his experience at Markham, he already knew. It wasn't long before sales at King under his direction had grown to such a point that Daisy was beginning to feel the pinch.

For that reason, as well as the ensuing Depression, Daisy bought up the 20 percent of outstanding Markham/King stock, closed the plant, moved some machinery, all tools and dies, and a few employees across the tracks to Daisy. Cass Hough and Floyd Reddeman both came over to Daisy, Hough as sales and advertising manager and Reddeman as assistant purchasing agent. The King line was continued primarily as a mail order catalog item and as a premium for various small companies selling seeds, sewing needles, and greeting cards.

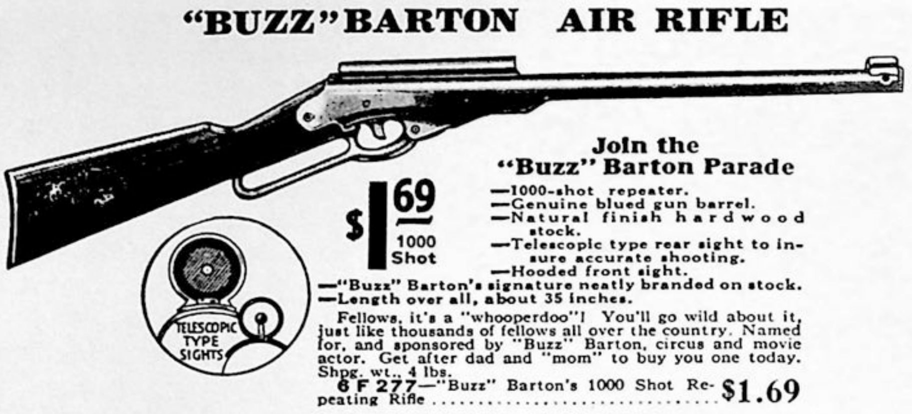
Daisy survived the Depression remarkably well. As pointed out earlier, during the Bank Holiday of 1933, when employees of other companies had long since been released or were being paid in scrip, Edward Hough went to a bank in Montreal and borrowed money on his life insurance policy with which to meet company payrolls. It is a point of great pride with Daisy that in a time when money was unbelievably tight Daisy employees were paid on time and in cash. Perhaps for that reason, Daisy's 1933 sales went from the 1932 Depression low of $278,000 to $530,000.

About this time, Cass Hough began to firm up the promotional formula that was to become the Daisy trademark. A young Detroit artist, Robert O. Wesley, began producing the first commercial art work for Daisy which incorporated appealing characters into attention-getting layouts. Cass Hough recognized that gaining parental approval was the key to whether or not a boy bought a B.B gun. The words vary along with the identity of the narrator, but no matter whether it was John Philip Sousa or Jack Holt, the message was always the same: B.B gun shooting developed confidence, concentration, steady nerves and was, above all else, manly.

But Hough did more than design appealing advertisements: he also put them in the right medium. Recognizing that comic strips were read by both adults and children, Hough began buying used comics from newspaper syndicates and assembling them in book form—probably the first comic books. These were distributed to dealers and supplied free to the customers. Soon after that, an enterprising publisher approached Hough to sound him out on the wisdom of producing such comic books for sale and inquired whether Hough would be interested in advertising in such a periodical. Not only would he be interested, replied Hough, but he would then and there sign a contract for advertising on the back page of the comic book for a period of five years. Overjoyed, the publisher drew up a contract and signed with Hough on the spot. When the new publishing venture was an almost instant success and advertising rates soared, the publisher became increasingly angry at the ridiculously low rates with which Daisy reached millions of readers on the back cover of his comic book. Thus began a period of Daisy domination of juvenile media which continues to the present day.

Radio, too, was employed as an advertising medium for Daisy products. Characteristically, the programs chosen featured characters like Uncle Neil Toumy of WJR Detroit who read the Sunday funnies to children. Toumy, in particular, had a national following and provided Daisy with a sizeable audience.

Open Road for Boys magazine was one of the favorite advertising mediums for Daisy. While *Boys Life* and *American Boy* also carried Daisy ads, *Open Road* had a more free wheeling editorial policy that allowed more lurid stories and Daisy could write more exciting advertising. The Boy Scout affiliated *Boys Life,* however, was more sensitive to the possibility of offending parents or Scout-


TELESCOPIC TYPE SIGHTS

"BUZZ" BARTON AIR RIFLE

Join the
"Buzz" Barton Parade

$1.69 1000 Shot

—1000-shot repeater.
—Genuine blued gun barrel.
—Natural finish hardwood stock.
—Telescopic type rear sight to insure accurate shooting.
—Hooded front sight.
—"Buzz" Barton's signature neatly branded on stock.
—Length over all, about 35 inches.

Fellows, it's a "whooperdoo"! You'll go wild about it, just like thousands of fellows all over the country. Named for, and sponsored by "Buzz" Barton, circus and movie actor. Get after dad and "mom" to buy you one today. Shpg. wt., 4 lbs.

6 F 277—"Buzz" Barton's 1000 Shot Repeating Rifle $1.69

Named after popular circus and movie star Buzz Barton, this Daisy was a popular B.B gun in both standard blued and special nickel plated models.

masters, and it not only requested blander advertising copy but often balked at allowing B.B gun advertising at all.

In 1934, Cass Hough designed the Buzz Barton Special, the first of a line probably best described as the Child-Hero Series. Using the latest King lever-action design with full round barrel, Daisy built a 1000-shot special lever-action repeater with a sighting tube in the rear and hooded front sight. Dubbed the Buzz Barton Special, it carried a decorative brand on the stock depicting cowboys and lariats reminiscent of child circus star Buzz Barton's act. Two models each of the Buzz Barton Special and Super Special were introduced from 1934 to 1940. These, as well as all other Daisy models are illustrated and described at the end of this chapter.

Barton was of B.B gun age when first contacted by Cass Hough and had already starred in three feature length westerns: *The Boy Rider, The Singleshot Kid,* and *Wizard of the Saddle.* A reviewer called him a miniature Tom Mix, Ken Maynard and Fred Thomson all in one, saying he could ride almost as well as any of them and throw a lariat too.

Barton also toured the country with a wild west circus. To get atmosphere and color for the Daisy advertising campaign and, more importantly, to secure the approval of Barton's parents for the promotion, Hough lived with the circus for a week. He got the atmosphere he wanted as well as a contract which provided for the use of Buzz Barton's name for no royalties. Retailing for $1.95, the Buzz Barton Special was an instant success and sold in excess of 100,000 pieces in 1934.

In the same year Hough secured an agreement with Universal Motion Picture cowboy star, Buck Jones, for the use of his name in the Buck Jones Special featuring a stock with inlaid compass and sundial. Although advertised as designed by cowboy star Buck Jones, the rifle was a dressed-up version of the King pump which had been a mediocre seller from its introduction in 1931 to 1934.

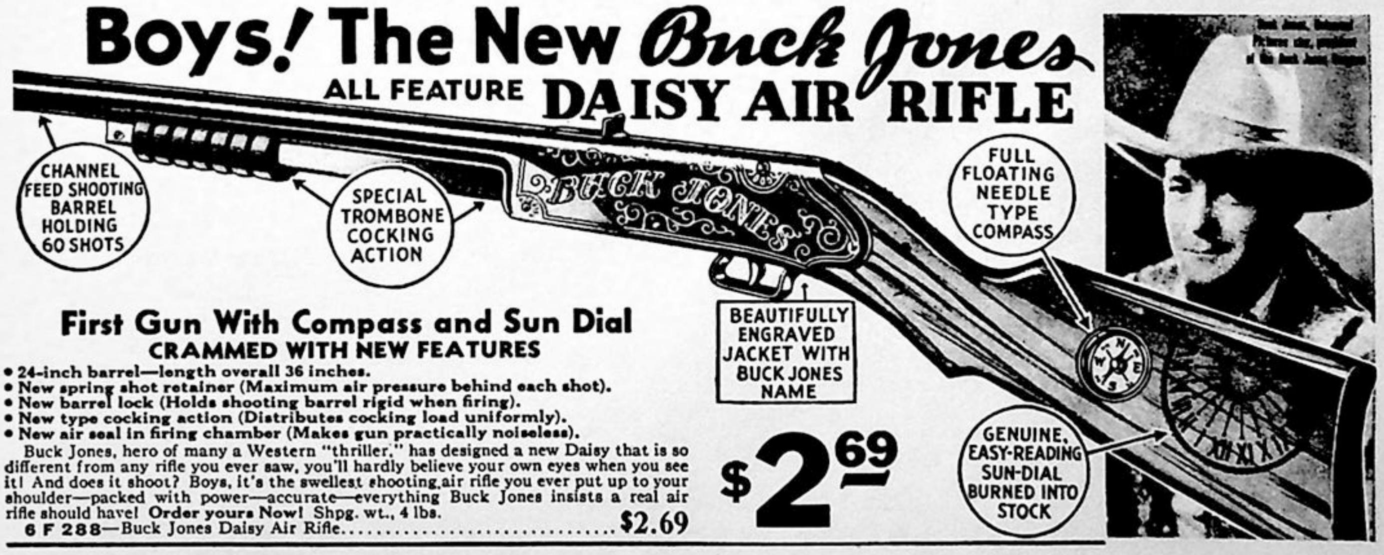
Buck Jones was a star of greater magnitude than Barton. A product of the silent western era, Jones had moved up from the Tom Mix company and formed his own outfit with which he made good quality westerns. Westerns of that era were often marked by outrageous plots and equally outrageous costumes. Not so Buck Jones. He dressed almost somberly and only in later years adopted the Mix type white hat. As a character he was believable, not afraid to make himself a comedy figure when necessary.

At the height of his popularity, Jones's outfit was making eight features a year. His last film was *Rough Riders* with Tim McCoy and Raymond Hatton. Jones's career was cut short when, after safely escaping the tragic Coconut Grove restaurant fire, he reentered it to help save those still trapped inside and was burned to death.

The Buck Jones Special was not quite so successful as the Buzz Barton. While it was a well made and good shooting gun, the straight pull slide-action was difficult for youngsters to cock and the $2.89 price tag put it out of reach for many.

Cass Hough's promotional techniques were not instituted at Daisy without some difficulties. To begin with, there was the problem of finding someone to write the kind of simple direct prose Hough had in mind. Ad writers were not used to writing in direct address. The well remembered birthday and Christmas reminders which prospective Daisy owners were urged to leave around the house where Dad could see them were written by Hough himself. He recalls that his father and Charles Bennett viewed one *American Boy* advertisement headed, "Hey, Get a Load of This," with horror, convinced that it would degrade the Daisy name.

The Buck Rogers rocket pistol, although not a B.B gun, was another example of Cass Hough's approach to production promotion. Noting that the famous comic strip character wielded a futuristic pistol of ambiguous capabilities, Hough convinced the artist to redraw the gun along lines designed by Daisy. For six months prior to the introduction of the Buck Rogers pistol on the market, Hough fed the author with technical data to work into the strip. The plan was to introduce the pistol at a time when it would be instantly recognized by kids. There were plenty of doubting Thomases among Daisy salesmen. Some went so far as to tell customers that the new gun was the brain child of the boss's nutty kid who had to be humored. Cass Hough recalls with justifiable relish that one month after the introduction of the Buck Rogers pistol, the same salesmen were in his office begging for more guns to fill thousands of back orders. With 800,000 Buck Rogers pistols added to B.B gun sales, the company



Boys! The New *Buck Jones*
ALL FEATURE DAISY AIR RIFLE

CHANNEL FEED SHOOTING BARREL HOLDING 60 SHOTS
SPECIAL TROMBONE COCKING ACTION
BUCK JONES
FULL FLOATING NEEDLE TYPE COMPASS
BEAUTIFULLY ENGRAVED JACKET WITH BUCK JONES NAME
GENUINE, EASY-READING SUN-DIAL BURNED INTO STOCK

First Gun With Compass and Sun Dial
CRAMMED WITH NEW FEATURES

- **24-inch barrel—length overall 36 inches.**
- **New spring shot retainer (Maximum air pressure behind each shot).**
- **New barrel lock (Holds shooting barrel rigid when firing).**
- **New type cocking action (Distributes cocking load uniformly).**
- **New air seal in firing chamber (Makes gun practically noiseless).**

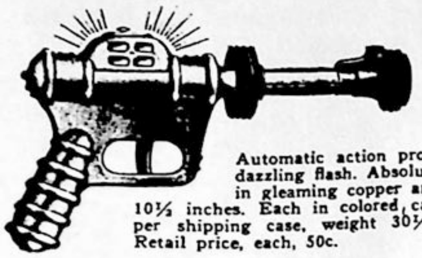
Buck Jones, hero of many a Western "thriller," has designed a new Daisy that is so different from any rifle you ever saw, you'll hardly believe your own eyes when you see it! And does it shoot? Boys, it's the swellest shooting air rifle you ever put up to your shoulder—packed with power—accurate—everything Buck Jones insists a real air rifle should have! **Order yours Now!** Shpg. wt., 4 lbs.

6 F 288—Buck Jones Daisy Air Rifle.............................**$2.69**

$2.69

Straight pull cocking action was too difficult for most boys and kept otherwise appealing and functional BUCK JONES from achieving popularity of other Daisy B.B guns.

No. 38 BUCK ROGERS DISINTEGRATOR



Automatic action produces loud report and dazzling flash. Absolutely harmless. Finished in gleaming copper and nickel-plate. Length 10½ inches. Each in colored carton. Packed 3 dozen per shipping case, weight 30½ pounds Retail price, each, 50c.

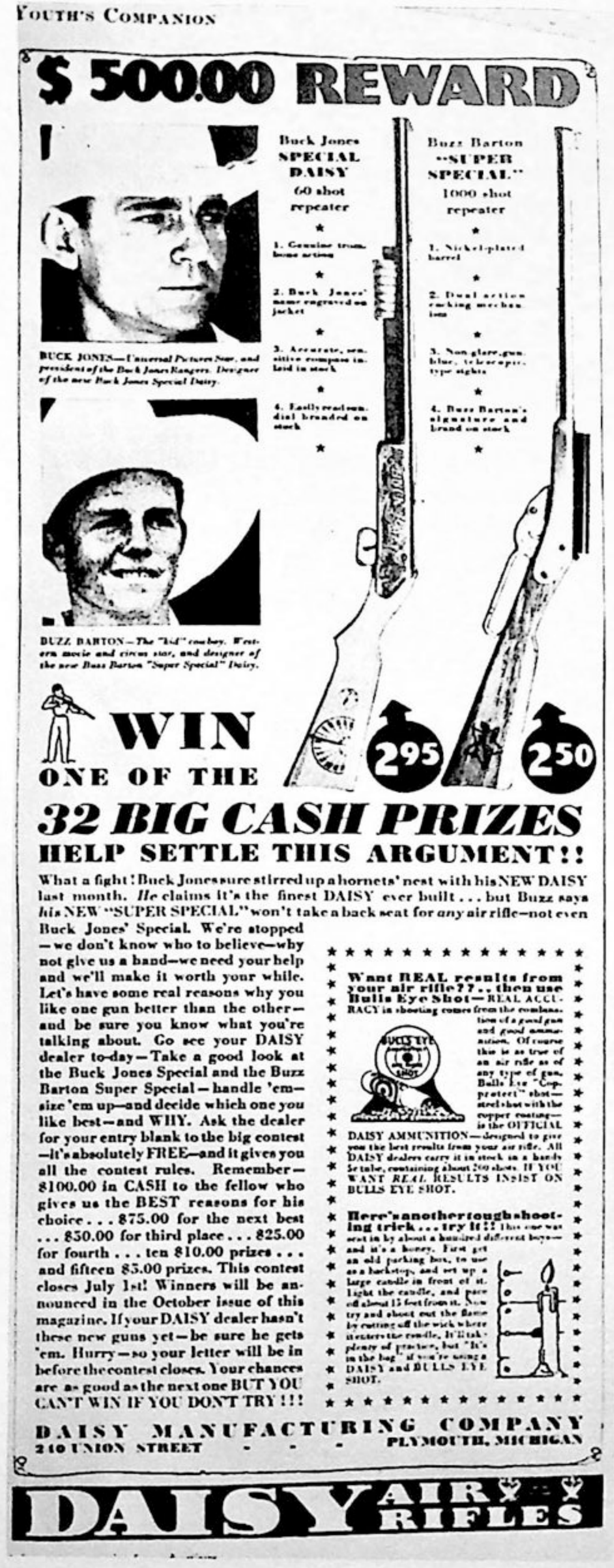
Buck Rogers pistol, Daisy's most successful non-B.B gun, sold out faster than it could be produced.

went over the million dollar sales mark in 1934.

In his spare time, Hough sewed up the low-priced market by introducing the Number 101 (Model 33) single shot Daisy which retailed for $1. The little "Daisy for a Buck" was a consistent seller for almost fifteen years.

In 1936, Daisy introduced its first spring-air pistol. It was one of Charles Lefever's last designs and was granted patent number 2,131,173 in October 1938. Like the Lefever water pistol, the Targeteer was modeled after a real handgun—in this case the Colt Woodsman. Designed for indoor shooting, the little sub-caliber (.118) pistol was marketed as both a child's and adult's toy. Advertisements pointed out that the 15 foot effective range made it safe for shooting in the home with nothing more than a pasteboard box for a backstop. Principally because of its unusual shot size, which dealers were reluctant to stock, the Targeteer was never a big seller. In efforts to stimulate sales, a variety of advertising promotions were used, including an attempt to start an air gun shooting fad among Hollywood beauties who graced the nation's newspapers while holding B.B guns. At the same time new variations of the Targeteer were introduced with adjustable target sights and nickel plated finish.

One of the more interesting features of the pistol was its container. Each Targeteer came in a combination packing box and target backstop. A wire with spinning metal



Youth's Companion

$ 500.00 REWARD

Buck Jones
SPECIAL
DAISY
60 shot
repeater

1. Genuine trombone action

2. Buck Jones' name engraved on jacket

3. Accurate, sensitive compass inlaid in stock

4. Easily read sun-dial branded on stock

Buzz Barton
"SUPER
SPECIAL"
1000 shot
repeater

1. Nickel-plated barrel

2. Dual action cocking mechanism

3. Non-glare, gun-blue, telescope-type sights

4. Buzz Barton's signature and brand on stock

BUCK JONES—*Universal Pictures Star, and president of the Buck Jones Rangers. Designer of the new Buck Jones Special Daisy.*

BUZZ BARTON—*The "kid" cowboy. Western movie and circus star, and designer of the new Buzz Barton "Super Special" Daisy.*

WIN
ONE OF THE
32 BIG CASH PRIZES
HELP SETTLE THIS ARGUMENT!!

What a fight! Buck Jones sure stirred up a hornets' nest with his NEW DAISY last month. *He* claims it's the finest DAISY ever built . . . but Buzz says *his* NEW "SUPER SPECIAL" won't take a back seat for *any* air rifle—not even Buck Jones' Special. We're stopped—we don't know who to believe—why not give us a hand—we need your help and we'll make it worth your while. Let's have some real reasons why you like one gun better than the other—and be sure you know what you're talking about. Go see your DAISY dealer to-day—Take a good look at the Buck Jones Special and the Buzz Barton Super Special—handle 'em—size 'em up—and decide which one you like best—and WHY. Ask the dealer for your entry blank to the big contest—it's absolutely FREE—and it gives you all the contest rules. Remember—$100.00 in CASH to the fellow who gives us the BEST reasons for his choice . . . $75.00 for the next best . . . $50.00 for third place . . . $25.00 for fourth . . . ten $10.00 prizes . . . and fifteen $5.00 prizes. This contest closes July 1st! Winners will be announced in the October issue of this magazine. If your DAISY dealer hasn't these new guns yet—be sure he gets 'em. Hurry—so your letter will be in before the contest closes. Your chances are as good as the next one BUT YOU CAN'T WIN IF YOU DON'T TRY!!!

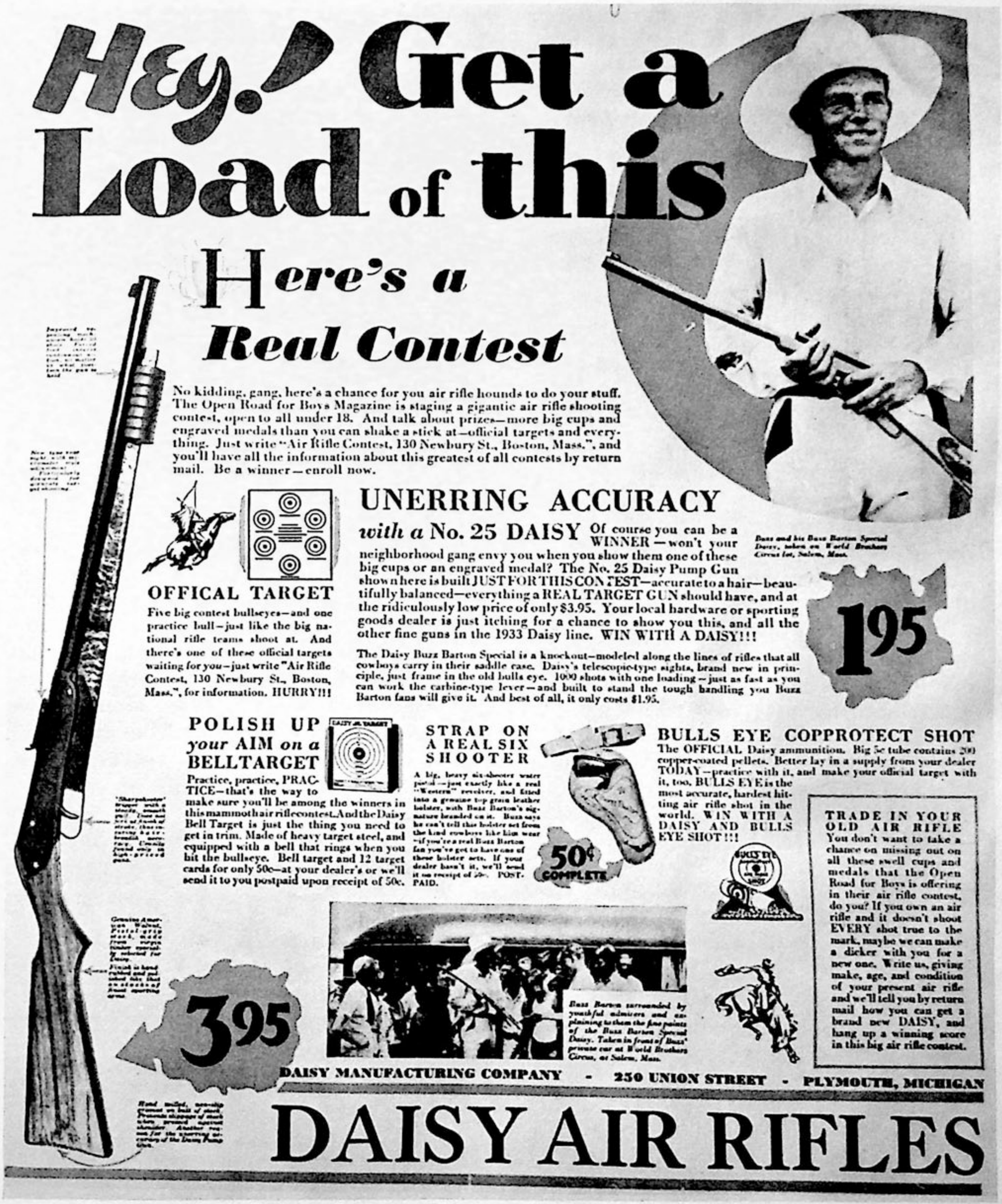
Want REAL results from your air rifle??.. then use Bulls Eye Shot—REAL ACCURACY in shooting comes from the combination of a *good gun* and *good ammunition*. Of course this is as true of an air rifle as of any type of gun. Bulls Eye "Cop-protect" shot—steel shot with the copper coating—is the OFFICIAL DAISY AMMUNITION—designed to give you the best results from your air rifle. All DAISY dealers carry it in stock in a handy 5c tube, containing about 200 shots. IF YOU WANT *REAL* RESULTS INSIST ON BULLS EYE SHOT.

Here's another tough shooting trick . . . try it!! This one was sent in by about a hundred different boys—and it's a honey. First get an old packing box, to use as a backstop, and set up a large candle in front of it. Light the candle, and pace off about 15 feet from it. Now try and shoot out the flame by cutting off the wick where it enters the candle. It'll take plenty of practice, but "It's in the bag" if you're using a DAISY and BULLS EYE SHOT.

DAISY MANUFACTURING COMPANY
240 UNION STREET - - - PLYMOUTH, MICHIGAN

DAISY AIR RIFLES

If any boy needed further reason to get a B.B gun, contests like this one provided it.



HEY! Get a Load of this

Here's a Real Contest

No kidding, gang, here's a chance for you air rifle hounds to do your stuff. The Open Road for Boys Magazine is staging a gigantic air rifle shooting contest, open to all under 18. And talk about prizes—more big cups and engraved medals than you can shake a stick at—official targets and everything. Just write "Air Rifle Contest, 130 Newbury St., Boston, Mass.", and you'll have all the information about this greatest of all contests by return mail. Be a winner—enroll now.

OFFICAL TARGET

Five big contest bullseyes—and one practice bull—just like the big national rifle teams shoot at. And there's one of these official targets waiting for you—just write "Air Rifle Contest, 130 Newbury St., Boston, Mass.", for information. HURRY!!!

UNERRING ACCURACY with a No. 25 DAISY

Of course you can be a WINNER—won't your neighborhood gang envy you when you show them one of these big cups or an engraved medal? The No. 25 Daisy Pump Gun shown here is built JUST FOR THIS CONTEST—accurate to a hair—beautifully balanced—everything a REAL TARGET GUN should have, and at the ridiculously low price of only $3.95. Your local hardware or sporting goods dealer is just itching for a chance to show you this, and all the other fine guns in the 1933 Daisy line. WIN WITH A DAISY!!!

Buzz and his Buzz Barton Special Daisy, taken on World Brothers Circus lot, Salem, Mass.

The Daisy Buzz Barton Special is a knockout—modeled along the lines of rifles that all cowboys carry in their saddle case. Daisy's telescopic-type sights, brand new in principle, just frame in the old bulls eye. 1000 shots with one loading—just as fast as you can work the carbine-type lever—and built to stand the tough handling you Buzz Barton fans will give it. And best of all, it only costs $1.95.

1.95

POLISH UP your AIM on a BELLTARGET

Practice, practice, PRACTICE—that's the way to make sure you'll be among the winners in this mammoth air rifle contest. And the Daisy Bell Target is just the thing you need to get in trim. Made of heavy target steel, and equipped with a bell that rings when you hit the bullseye. Bell target and 12 target cards for only 50c—at your dealer's or we'll send it to you postpaid upon receipt of 50c.

STRAP ON A REAL SIX SHOOTER

A big, heavy six-shooter water pistol—just exactly like a real "Western" revolver, and fitted into a genuine top grain leather holster, with Buzz Barton's signature branded on it. Buzz says he can't tell this holster set from the kind cowboys like him wear—if you're a real Buzz Barton fan you've got to have one of these holster sets. If your dealer hasn't it, we'll send it on receipt of 50c. POSTPAID.

50¢ COMPLETE

BULLS EYE COPPROTECT SHOT

The OFFICIAL Daisy ammunition. Big 5c tube contains 200 copper-coated pellets. Better lay in a supply from your dealer TODAY—practice with it, and make your official target with it, too. BULLS EYE is the most accurate, hardest hitting air rifle shot in the world. WIN WITH A DAISY AND BULLS EYE SHOT!!!

TRADE IN YOUR OLD AIR RIFLE

You don't want to take a chance on missing out on all these swell cups and medals that the Open Road for Boys is offering in their air rifle contest, do you? If you own an air rifle and it doesn't shoot EVERY shot true to the mark, maybe we can make a dicker with you for a new one. Write us, giving make, age, and condition of your present air rifle and we'll tell you by return mail how you can get a brand new DAISY, and hang up a winning score in this big air rifle contest.

Buzz Barton surrounded by youthful admirers and explaining to them the fine points of the Buzz Barton Special Daisy. Taken in front of Buzz' private car at World Brothers Circus, at Salem, Mass.

3.95

DAISY MANUFACTURING COMPANY - 250 UNION STREET - PLYMOUTH, MICHIGAN

DAISY AIR RIFLES

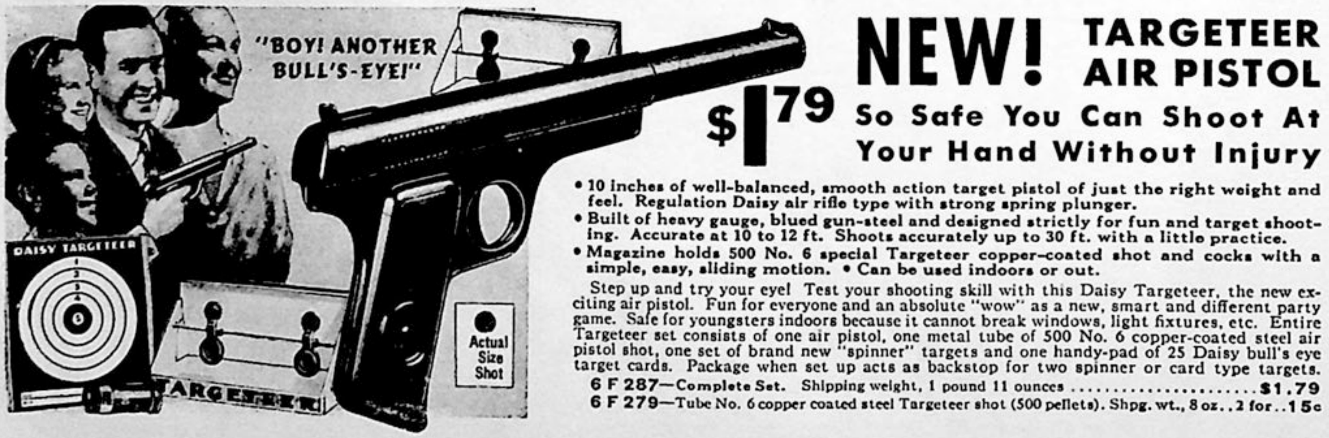
Daisy advertising under Cass Hough's leadership in the 30's hit so squarely on boy's needs that many men today can recall entire passages from advertisements like this one.

discs was supplied which was placed horizontally in the opened box. The nickel plated model had three spinning discs, the blued model only two. The gun remained in the Daisy line until 1950 when it was temporarily withdrawn. It was reintroduced in B.B caliber in 1960 as the model 177, with dummy barrel weight and contoured plastic target grips.

Also in 1936, Cass Hough was elected Vice President of Daisy and became a member of the Board of Directors. Three years later he contracted with Fred Harman for the use of his comic character, Red Ryder, as the promotion for the third B.B gun in the Child-Hero Series. The new Red Ryder carbine was the biggest and most profitable air rifle promotion at Daisy from 1939 to 1958. During the height of the Red Ryder popularity the company often received mail addressed simply to the Red Ryder Company.

Daisy did not go into the B.B shot manufacturing business until just prior to World War II, when they purchased the American Ball Company of Minneapolis for whom they had been sole sales agents since 1925. It was Cass Hough who proposed to his father that Daisy buy the company. The elder Hough and Charles Bennett were convinced that American Ball would not sell—so sure, in fact, that they told Cass they would give him as spending money the difference between what he was authorized to pay and whatever less he could buy it for. Cass still recalls them chuckling to each other as he prepared his plane for the trip to Minneapolis. A short time later he got his laugh when he bought the company for $35,000 less than he was authorized to pay. But, Cass recalls, his father got the last laugh—he never paid his son the $35,000.

With the start of World War II, Hough, who had been flying since he was seventeen, went on active duty with the Army Air Force. As Chief of the Eighth Air Force Technical Operations Section, Hough was more pilot than administrator. Following the first disappointing performances of the long awaited Lightning P-38s, Colonel Hough and his crew went to work on refinements which resulted in a plane that flew circles around the Allied and Axis best. But Hough's problems had only begun. Within hours of each other two pilots failed to bring their 2400 horsepower Lightnings out of power dives, which cost one man his life and the other serious injury. Convinced that the trim tabs could be used to reestablish control and pull the big plane out of a dive, Hough nosed his plane over at full throttle from eight miles up and, like a wrong way rocket, hurtled


"BOY! ANOTHER BULL'S-EYE!"
DAISY TARGETEER
TARGETEER
Actual Size Shot

NEW! TARGETEER AIR PISTOL

$1.79

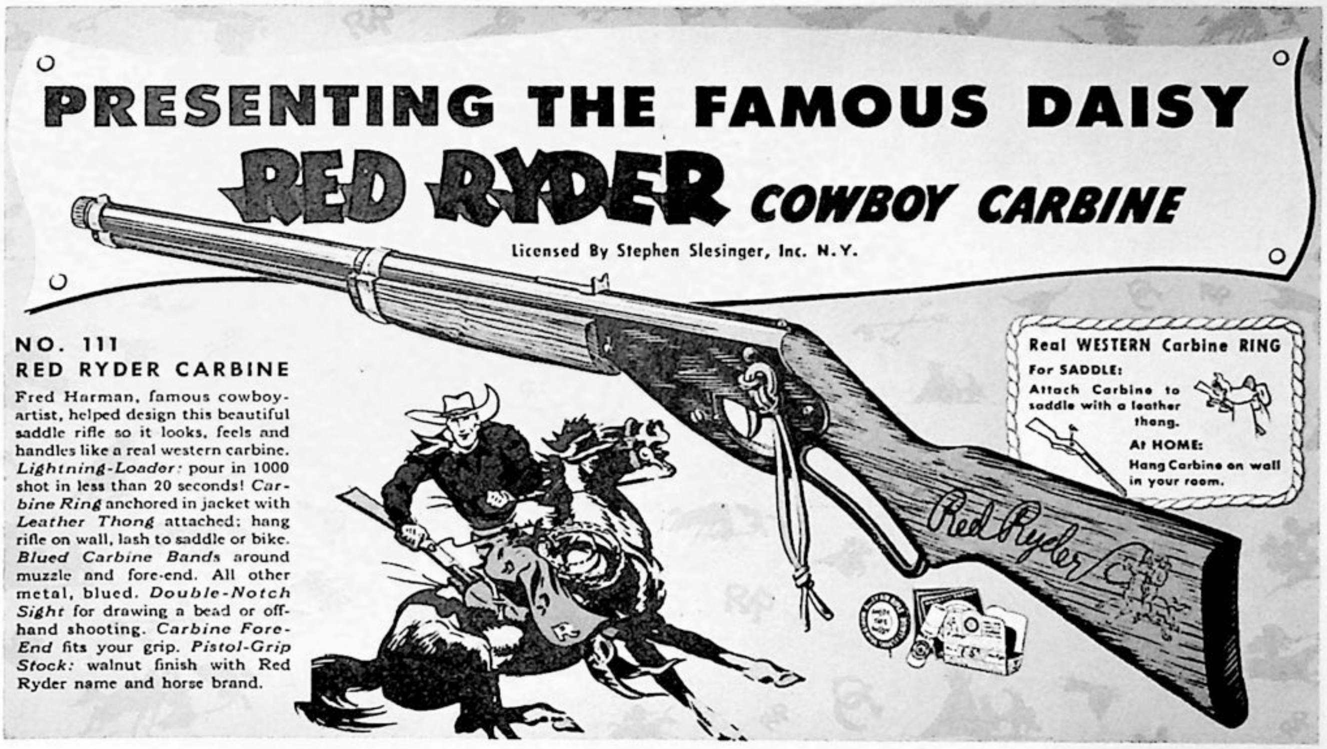
So Safe You Can Shoot At Your Hand Without Injury

- 10 inches of well-balanced, smooth action target pistol of just the right weight and feel. Regulation Daisy air rifle type with strong spring plunger.
- Built of heavy gauge, blued gun-steel and designed strictly for fun and target shooting. Accurate at 10 to 12 ft. Shoots accurately up to 30 ft. with a little practice.
- Magazine holds 500 No. 6 special Targeteer copper-coated shot and cocks with a simple, easy, sliding motion. • Can be used indoors or out.

Step up and try your eye! Test your shooting skill with this Daisy Targeteer, the new exciting air pistol. Fun for everyone and an absolute "wow" as a new, smart and different party game. Safe for youngsters indoors because it cannot break windows, light fixtures, etc. Entire Targeteer set consists of one air pistol, one metal tube of 500 No. 6 copper-coated steel air pistol shot, one set of brand new "spinner" targets and one handy-pad of 25 Daisy bull's eye target cards. Package when set up acts as backstop for two spinner or card type targets.

6 F 287—Complete Set. Shipping weight, 1 pound 11 ounces **$1.79**
6 F 279—Tube No. 6 copper coated steel Targeteer shot (500 pellets). Shpg. wt., 8 oz. . 2 for . . **15c**

Dealers' reluctance to regularly stock .118 Targeteer ammunition kept sales of otherwise well-conceived pistols below Daisy expectations.



PRESENTING THE FAMOUS DAISY
RED RYDER COWBOY CARBINE
Licensed By Stephen Slesinger, Inc. N.Y.

NO. 111
RED RYDER CARBINE

Fred Harman, famous cowboy-artist, helped design this beautiful saddle rifle so it looks, feels and handles like a real western carbine. *Lightning-Loader:* pour in 1000 shot in less than 20 seconds! *Carbine Ring* anchored in jacket with *Leather Thong* attached: hang rifle on wall, lash to saddle or bike. *Blued Carbine Bands* around muzzle and fore-end. All other metal, blued. *Double-Notch Sight* for drawing a bead or off-hand shooting. *Carbine Fore-End* fits your grip. *Pistol-Grip Stock:* walnut finish with Red Ryder name and horse brand.

Real WESTERN Carbine RING

For SADDLE:
Attach Carbine to saddle with a leather thong.

At HOME:
Hang Carbine on wall in your room.

The Red Ryder Carbine was the largest selling American B.B gun prior to the introduction of the Spittin Image Model 1894 in 1960. Four major variations were produced from 1940 to 1952. It is still manufactured as the Number 111, but without the Red Ryder label.

earthward in the longest terminal velocity dive in history. When, with a scant twelve seconds to go, he pulled the plane up, he had not only broken the sound barrier, but given American pilots a badly needed edge over the Luftwaffe. For his courage, skill and devotion to duty he was awarded the Distinguished Flying Cross. With it and others, including the Legion of Merit, he returned to Daisy in 1945 after 38 months overseas to the post of Executive Vice President.

Wartime production at Daisy was limited to wooden training rifles and metal cannisters for military ammunition. No B.B guns were regularly produced from late 1941 until late 1945. Some few hundred rifles were assembled in the early 40s from parts already on hand, but no new parts were produced. As soon as former employees were released from the service or defense plant jobs, Daisy took them back. As fast as the return of employees would allow, Daisy began production of B.B guns in 1945.

The immediate postwar Daisy line included far fewer models than had been listed in 1940. Neither the Buck Jones nor Buzz Barton models were manufactured. The entire King line was dropped and the Little Daisy for a Buck, the Number 101 single shot lever-action, was produced briefly before being dropped in favor of the break-open single shot number 100. The first materials changes were made in 1946, the most easily recognized being the use of aluminum levers painted black instead of the prewar cast iron. Other changes are enumerated in the chronology at the end of this chapter.

Postwar material shortages, particularly

The team behind the phenomenal RED RYDER B.B gun promotion, Cass Hough and Fred Harman visit in 1967. Harman was the author and illustrator of Red Ryder comic strip, and is today renowned for his paintings of the American West.

steel, kept Daisy output far below demand. Customers were screaming for goods at any price and many manufacturers jacked up their prices as much as the traffic would bear. Daisy chose not to take advantage of the situation and held prices at prewar levels. Good ethics proved to be bad business, however, for when increased labor and materials costs finally forced price increases, the competition was able to stand pat with already inflated prices and Daisy looked greedy by comparison.

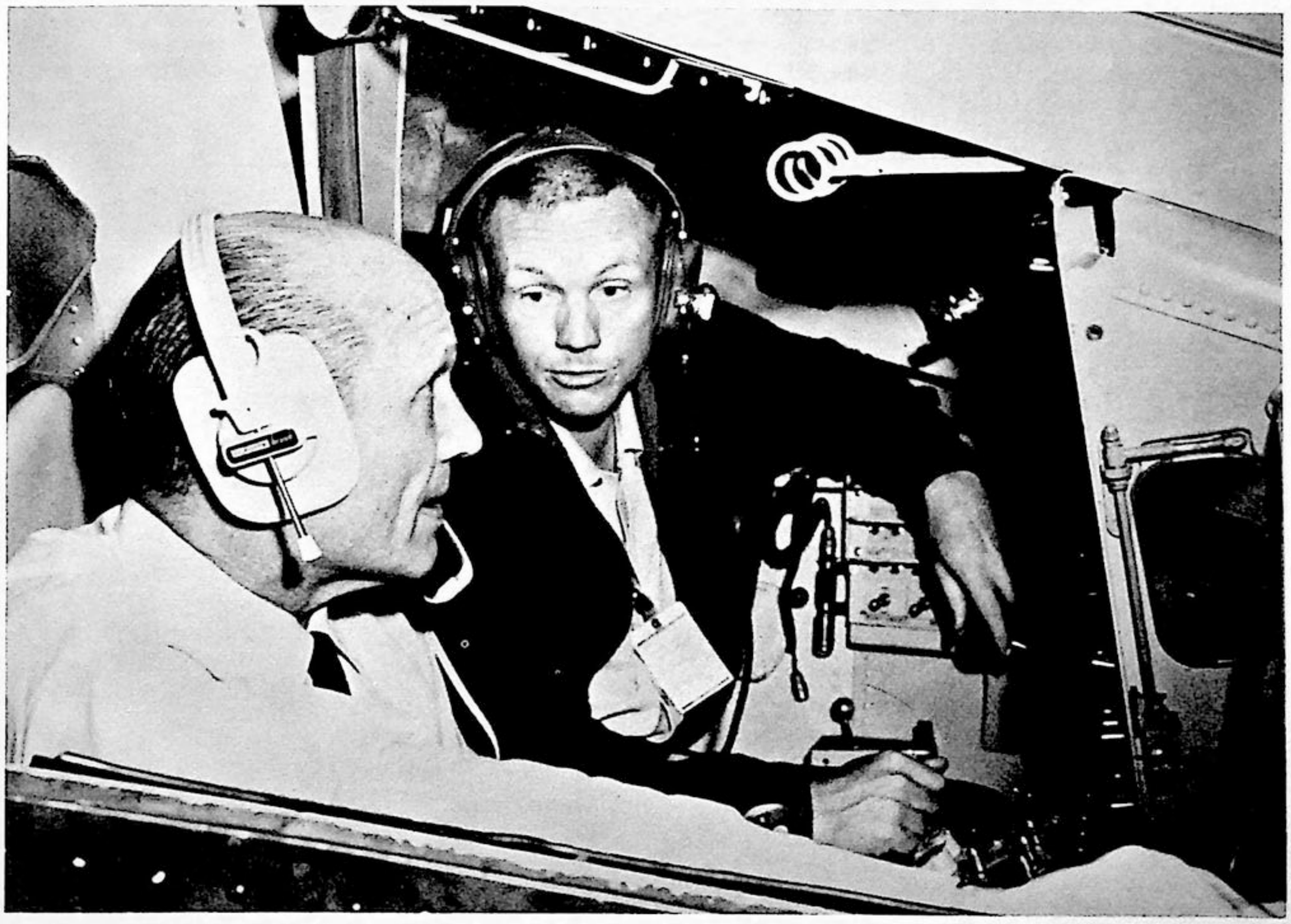
Still, sales went up a million or two a year until 1949. Then the Korean War began. As if steel shortages weren't bad enough, Daisy requests for butt stock walnut were preempted by the War Department and the first experiments with substitute materials began at Plymouth in 1950. Of necessity, the first move was to plastic gun stocks.

The decade of the 50s was a transitional one at Daisy. Rising costs in every phase of the operation forced changes in materials, designs, and ultimately, the location of the plant. In the midst of it all, Daisy tried to accommodate to the changing tastes of television watching and increasingly urban dwelling American boys. They were not always successful.

Early experiments with Fibron plastic stocks were not fully satisfactory; the color and feel were definitely non-wood; moreover, they warped. By 1953, Daisy engineers were experimenting with electrostatic painting of guns as a substitute for bluing. Engraved (die stamped) decorations disappeared in 1956, and were replaced by silk screened designs that varied yearly.

Less recognizable were internal changes. In 1951, the location of the lever screw was moved upward about an inch in a successful attempt to make cocking easier. About the same time, the long awaited rubber plunger head was perfected. Rubber plungers needed more oil and most rubber plunger models can be recognized by the oil port on the side of the barrel. Both of these changes made more effective shooting guns.

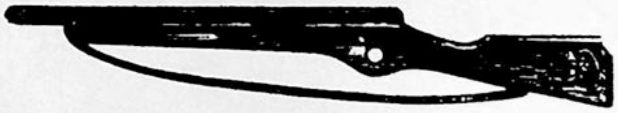
One of the less obvious marks of the transitional Daisys is the interchangeability of parts among a wide variety of models. As fewer and fewer parts were made to fit more and more guns, some near misfits occurred, which the



Daisy chief executive Cass Hough receives module trainer instructions during visit to Houston's Manned Spacecraft Center from Apollo 11 Commander Neil Armstrong. Hough was cited in 1943 for high speed dive research during which he traveled faster than any human being had traveled before. (Official NASA photograph)

New -- Harmless
DAISY PLAY GUNS
for Pre-AIR RIFLE AGE Children

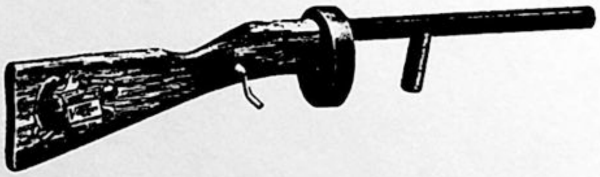
No. 85 DAISY COMMANDO REPEATING PLAY GUN



Retail Price
$1.25
each, Postpaid

Well-balanced, noise-action fun gun. Captive cork makes repeating loud bangs as fast as easy pump-action is operated. Sliding fore-arm is grooved for easy grip and finished in flashing red. Bright, natural-finish stock bears beautiful "Victory-Eagle" crest of gold and four colors. Jet black barrel has rounded "breech" for military appearance. COMMANDO can be carried in true "Commando" manner with heavy, gray webbing sling. Hard wood throughout and permanently joined—like all Daisys, built to "take it." Twenty-nine inches long; individually packed in red, white and blue carton.

No. 83 DAISY CHATTERMATIC "SUB-MACHINE GUN"



Retail Price
$1.00
each, Postpaid

Here at last is the wooden "Tommy Gun" that combines appearance, noise and play value with STURDY, LONG-LASTING construction! Built to take punishment, of hard wood, permanently joined. The bright red, cylindrical "magazine" makes a brilliant flash of color between the natural-finish husky stock and the ebony-black barrel and fore-grip. Stock bears a handsome "Victory" crest printed in gold and four colors. Turn the "firing crank" to produce loud, "machine-gun" RAT-TAT-TAT. Length, 24 inches.

The only guns produced by Daisy during World War II years were these wooden noisemakers. The factory was principally occupied with the production of ammunition canisters.

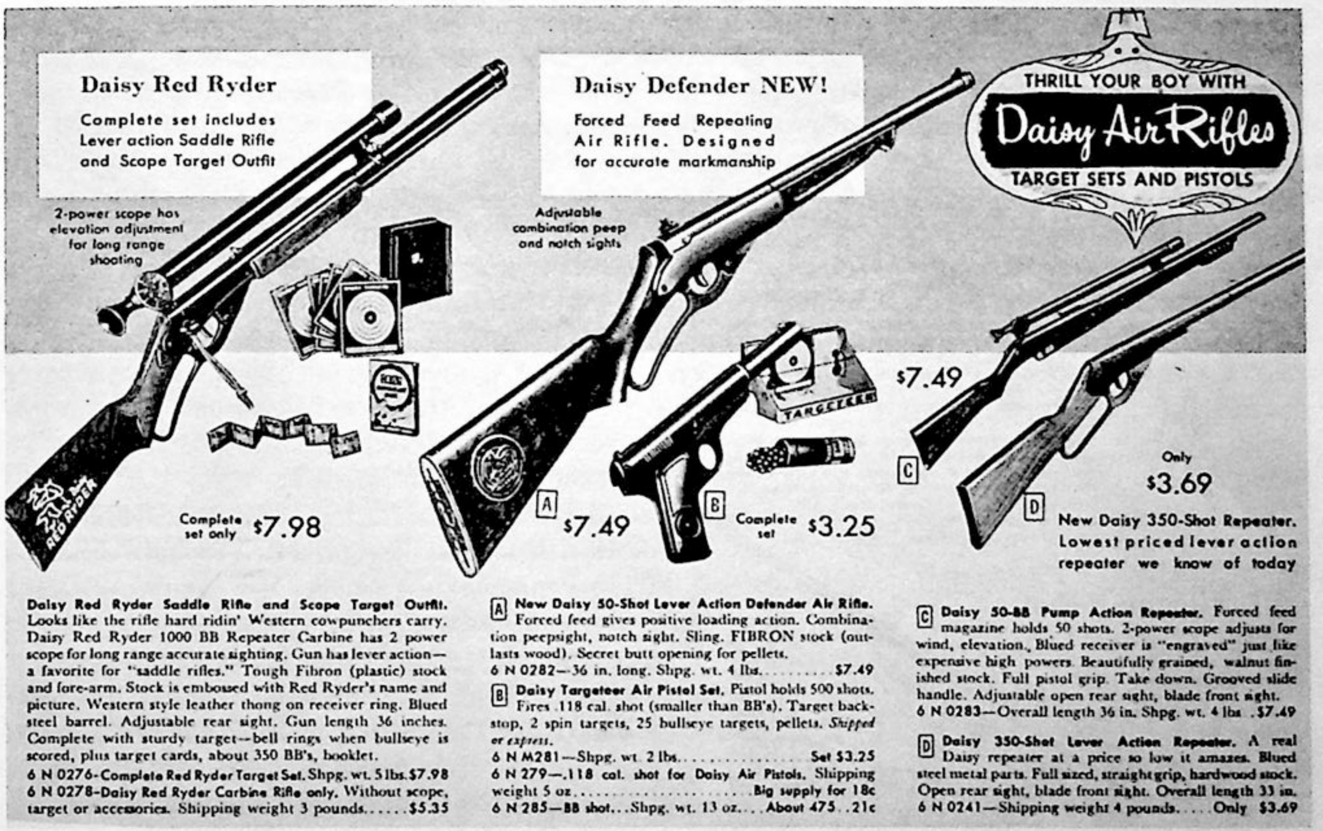
uninformed observer might mistake for incorrect parts. For example, by the mid fifties, most lever-action fore-ends were a common part number A 1113, which was grooved for a lightning loader tube whether or not the gun had one. Similarly, one common stock, number 211, fit many lever-action models and had a hole for a sling swivel whether or not the model carried a sling. The model 107 slide-action originally had a special stock number 1075; this was later changed to reduce the gun's overall length by two inches by using a number 960 B.B lever-action stock which had the groove for the lever filled in with a piece of folded metal. The point is that future collectors should not be too hasty in labeling parts of guns from the 50s as incorrect or not original to the gun; they just look that way.

Daisy's most ambitious experiment with color also went on during the 50s. Plastic stocks were variously supplied in tones ranging from a deep purplish mahogany, through blond, all the way to ivory. Metal finishes were even more varied and included black, brown, bronze, blue, caramel, chrome, gold, and gray. The Air Force Rocket Air Rifle even sported a red sling.

Decoration was never greater than in the 50s. Gold and silver designs of all kinds were silkscreened on many models. On the Number 25 in particular, the design was changed yearly. Many of the plastic stocks carried embossed logos to carry out the theme of the gun. These included a federal eagle on the Model 98, and a kneeling frontiersman on the Long Rifle. Most stocks carried checkering and the Daisy motto on the butt plate. There were dummy hammers, lace-on recoil pads and stars die-cut out of the lever housing.

There were gimmicks too. One of the most dramatic was the Ricochet Noise Rifle. The noise maker was contained in the metal fore-end and was composed of a spring steel wire agitated by a toothed wheel driven off the plunger in a manner similar to a Halloween noisemaker. It was used for a short time as a B.B gun but is still manufactured as a toy play rifle.

Not all of the experiments during the 50s were short-lived. One of the most substantial items was the Model 303 Daisy Eagle-eye


THRILL YOUR BOY WITH
Daisy Air Rifles
TARGET SETS AND PISTOLS
RED RYDER
TARGETEER
A
B
C
D
Complete set only $7.98
$7.49
Complete set $3.25
$7.49
Only $3.69

Daisy Red Ryder

Complete set includes Lever action Saddle Rifle and Scope Target Outfit

2-power scope has elevation adjustment for long range shooting

Daisy Defender NEW!

Forced Feed Repeating Air Rifle. Designed for accurate markmanship

Adjustable combination peep and notch sights

New Daisy 350-Shot Repeater. Lowest priced lever action repeater we know of today

Daisy Red Ryder Saddle Rifle and Scope Target Outfit. Looks like the rifle hard ridin' Western cowpunchers carry. Daisy Red Ryder 1000 BB Repeater Carbine has 2 power scope for long range accurate sighting. Gun has lever action—a favorite for "saddle rifles." Tough Fibron (plastic) stock and fore-arm. Stock is embossed with Red Ryder's name and picture. Western style leather thong on receiver ring. Blued steel barrel. Adjustable rear sight. Gun length 36 inches. Complete with sturdy target—bell rings when bullseye is scored, plus target cards, about 350 BB's, booklet.

6 N 0276-Complete Red Ryder Target Set. Shpg. wt. 5 lbs. $7.98

6 N 0278-Daisy Red Ryder Carbine Rifle only. Without scope, target or accessories. Shipping weight 3 pounds...... $5.35

A **New Daisy 50-Shot Lever Action Defender Air Rifle.** Forced feed gives positive loading action. Combination peepsight, notch sight. Sling. FIBRON stock (outlasts wood). Secret butt opening for pellets.

6 N 0282—36 in. long. Shpg. wt. 4 lbs.......... $7.49

B **Daisy Targeteer Air Pistol Set.** Pistol holds 500 shots. Fires .118 cal. shot (smaller than BB's). Target backstop, 2 spin targets, 25 bullseye targets, pellets. *Shipped or express.*

6 N M281—Shpg. wt. 2 lbs................ Set $3.25

6 N 279—.118 cal. shot for Daisy Air Pistols. Shipping weight 5 oz....................... Big supply for 18c

6 N 285—BB shot...Shpg. wt. 13 oz....About 475..21c

C **Daisy 50-BB Pump Action Repeater.** Forced feed magazine holds 50 shots. 2-power scope adjusts for wind, elevation. Blued receiver is "engraved" just like expensive high powers. Beautifully grained, walnut finished stock. Full pistol grip. Take down. Grooved slide handle. Adjustable open rear sight, blade front sight.

6 N 0283—Overall length 36 in. Shpg. wt. 4 lbs .$7.49

D **Daisy 350-Shot Lever Action Repeater.** A real Daisy repeater at a price so low it amazes. Blued steel metal parts. Full sized, straight grip, hardwood stock. Open rear sight, blade front sight. Overall length 33 in.

6 N 0241—Shipping weight 4 pounds.... Only $3.69

Although warping of plastic material used in these 1952 B.B guns was disappointing, further Daisy research and development eventually led to abandonment of wood for all but lowest priced 102 CUB.

Scope. In production today, it has a plastic and metal body with high quality optics and accurate adjustments. Since the mid 50s all standard model Daisys have been produced with scope mounting holes for this scope in the right side of the frame. The little scope is a surprisingly high quality instrument for its low price.

In spite of the inadequacies of early substitute materials used by Daisy in the 50s, the company's persistence in research and development pioneered the wide use of such materials today, not only in firearms, but other sporting and recreational goods as well. Perhaps the best illustration of how far Daisy has taken its research came from a large mail order company buyer who recently examined a Daisy model. Running his fingers searchingly over the grain textured plastic stock, listening intently as he rapped his knuckles repeatedly against it, and finally testing its density by pressing it with his thumbnail, he asked what kind of wood it was made of.

Like any transitional period in a company's history, Daisy's yielded some variations which make good collectors' items. Not all of them need detailing here; they are included in the product chronology. However, one of the guns that is sure to become increasingly rare and sought after is the Daisy Standard Number 106. It is notable for at least three reasons: it was the last of the inexpensive wooden stocked B.B guns from Daisy; it was a major design change (although adapted from the Number 100 Model 38); and it was notoriously fragile. The unusual hinged breech cover rode in slots in the frame guided by little folded metal tabs that soon broke off. It will probably go down in Daisy history as the break-apart break-open.

In 1959, Daisy closed out the decade by introducing a new model which was predictive of the success of the 60s. The new rifle was the Number 99 Daisy Target Special. Based upon the old Military Model 140 broad frame, the new gun was intended to attract the serious youngster who shot for score. It is equipped with target sights, wood stock and fore-end, and an adjustable sling. The 1959 model was an 850 shot gravity feed type. This was changed to a forced feed type in 1960 making the weight more stable with the balance less likely to shift with the rolling of a load of B.Bs. The Model 99 and its sister guns, the 95, 96, and 2299—all in the Defender series—became one of three lines offered by Daisy in the 60s. The remaining two are the "Spittin' Image" series, and the standard line.

The "Spittin' Image" series began in 1961 with the introduction of the now famous Model 1894 Western Carbine. The first totally new Daisy design since the Lefever Targeteer in 1936, the new carbine has broken all sales records at Daisy and eclipsed the success of the Red Ryder carbine. Not only does the 1894 look like a Winchester rifle, it loads, cocks, and handles like one too. Using the opening of the lever to half cock the gun and the closing stroke to complete cocking, the new design makes the easiest cocking B.B gun ever. It is what an earlier generation of boys only imagined their Red Ryders to be. The 1894 has also been produced in three commemorative models: the Buffalo Bill, the Cody Scout, and the Sears Replica Centennial Rifle. These guns are such accurate models of the guns they represent that they have been used in many instances where the real thing is too expensive or cumbersome: they have been carried in Rose Bowl parades by mounted posses, carried in pickup truck rear window racks, and even framed for hanging over the mantle where only the interior decorator knows for sure.

Also introduced in 1961 was Daisy's first pistol since the Targeteer. The new Number 179 Peacemaker revolver is a "Spittin' Image" of the famous Colt revolver for which it was named. It is the only Daisy B.B gun ever produced which is totally spring powered. The B.B is propelled from the barrel directly as a result of moving ahead of the spring. No air chamber is involved. The effective range is about 15 feet, making the gun more a novelty or indoor plinker than a serious target gun. A good seller, the Daisy six shooter is not immediately collectible. However, it is reported that one hundred salesmen's samples were produced from machined brass prior to the introduction of the die cast store model. These samples should become increasingly collectible.

The third model in the "Spittin' Image" triumvirate was introduced in 1965. In external appearance a duplicate of the Remington Fieldmaster .22 caliber rifle, the Model 572 pump would fool any housebreaker and most crows.

The Number 25 pump; the Numbers 111, 102, and 1776 lever-actions; a reintroduced Model 21 double barrel; and an improved version of the old Targeteer, the Number 177 pistol, make up the standard line. Some models offer the Daisy scope as an optional accessory. These guns are still the stock in trade of most local hardware dealers. Daisy also makes variations of these guns for larger hardware chains such as Western Auto and catalog houses such as Sears Roebuck. External decoration is changed rather frequently, but a full detailing of variations serves no present purpose.

In sharp contrast to the Daisys of the 50s, B.B guns produced in the last decade could hardly be better. Their general fit and finish rivals the best of the guns produced during the Vintage Period of the 30s. The electrostatic painting process produces a finish that is smooth, semi-glossy and very durable. The new plastic stocks have a cast in texture that feels like wood and a variable grain pattern from piece to piece. The hollow plastic thump is gone, thanks to a styrofoam and steel ball filling that gives real gun heft and stability. Most importantly, the characteristic lunge of the spring-air B.B gun is all but gone in most models. Trigger let-offs are sharp and sights are more than adequate.

In the early 50s, Daisy began an aggressive shooting education program across a broad front. Company instructors would go anywhere anytime to conduct their programs. One instructor reported that in the beginning there were often more teachers than pupils. But Daisy persisted. Gifts of money and equipment funneled to the shooting education program of Michigan State University's Outdoor Education Project supported numerous shooting recreation programs in public schools.

The project's report points out that Daisy B.B guns are now regarded as a teaching tool in marksmanship and gun safety. This is in contrast to the idea in many schools and communities that the air rifle is only a toy and in some cases a nuisance. The Outdoor Education Project, with the assistance of the Daisy Manufacturing Company and the Hough Foundation, has thus helped hundreds of thousands of boys and girls become interested in the fine recreational sport of shooting and has made the shooting program an integral part of elementary education, physical education and recreation in countless numbers of schools in the nation.

In 1963, the Junior Chamber of Commerce became interested in the national B.B Gun Championships sponsored by Daisy. With J.C. co-sponsorship, the national B.B Gun Championships are held each year, as the culminating event in a year-long program conducted in thousands of communities across the country and involving more than a half million youngsters. In the first year's championship, teams from 37 states were entered. In the 1970 shoot, teams from 45 states along with Canada and Mexico were entered. Three contestants shot perfect scores.

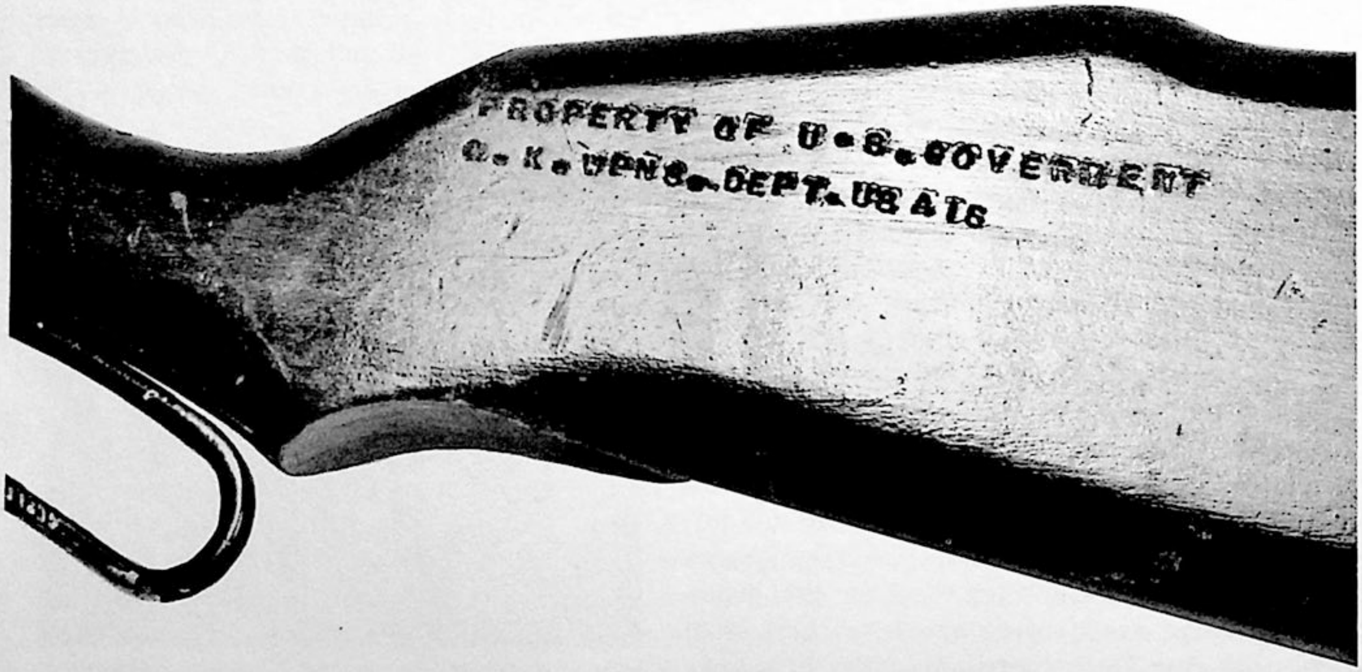
Outdoor Education Project's shooting education programs resulted in first use of B.B guns within public school classrooms.

Daisy shooting education programs were extended into areas previously unthought of. Senior citizens groups were formed in many communities for recreational shooting. Physical therapists recognized B.B gun shooting as a recreational activity which demanded and provided success in small motor disciplines and practice. Success was also encouraging to many bedridden patients who had previously given up any form of sports activity.

Certainly the most noteworthy shooting education program developed by Daisy in the 60s was the United States Army Quick Kill Program designed to turn inexperienced recruits into crack shots for the new kind of close-in warfare of Vietnam. Based on long-recognized instinct shooting principles, the Daisy developed and refined training program practically guarantees that inexperienced marksmen can be trained to hit aerial targets after a few minutes of intense instruction.

Using specially modified Number 96 target specials without sights, recruits shoot at metal discs tossed into the air by the instructor. The pupil is told not to look at the gun barrel but only at the discs and told to watch the B.B. Keeping both eyes open, the student soon picks up the B.B which becomes, in effect, a miniature tracer bullet. Specially colored eye glasses assist him in spotting the B.B in flight while protecting his eyes from ricochets. Recruits shoot a minimum of 900 rounds of B.B gun ammo before graduating to specially equipped sightless M-16s. The program has been phenomenally successful in quickly and efficiently teaching soldiers to point and shoot without sights in close combat.

Ironically, the program has not been phenomenally profitable for Daisy. Anticipating the sale of about 90,000 units a year, Daisy was chagrined to find that the quality they had built into the guns was their greatest enemy. The guns refused to wear out, and the Army simply replaces a few simple worn parts—mainly shot tubes—and keeps on using the same guns. Recently, the U.S. Army presented Daisy with a gun that had shot 10 million B.Bs before it was retired from service.



Example of U.S. martial marked Daisy Quick Kill B.B gun.

Cass Hough examines latest Daisy B.B gun, 86/70, most recent in a long series of B.B guns using the E. C. Hough designed one piece frame and barrel envelope.

Never subject to repair or adjustment beyond routine maintenance, the rifle still works perfectly. The story goes that the sergeant who was assigned the gun only parted with it when threatened with an extended tour in Greenland; and it still took him two weeks to make up his mind.

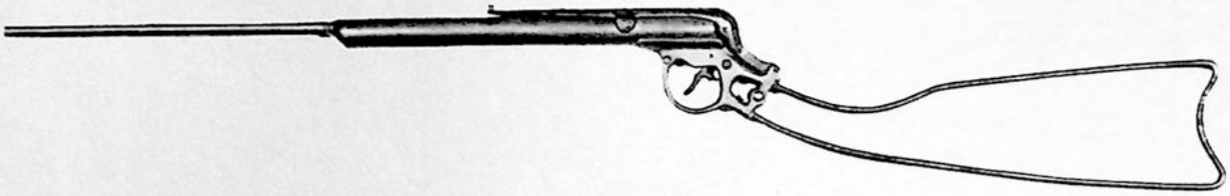
Only two Daisy guns of the 60s seem to offer any immediate collector value. The first is the Model Number 1797 Special 75th Anniversary Set. Introduced in 1961 in specially boxed limited editions, the set contained a Ricochet Sound Rifle, Model 97, and a Daisy B.B Six Gun, Model 179, selling for $14.95. The high price and relative short manufacturing life of the Ricochet Rifle make this one a good bet for scarcity.

The second is the U.S. Army Number 2299 Quick Kill. As indicated earlier, however, these B.B guns have not worn out as fast as expected and none were released as surplus during the 60s. When and if these guns are released, carrying U.S. Army Ordinance Markings, the fact that they are the first U.S. Martial B.B guns in history ought to make them very desirable.

Daisy entered the 70s with the first new lever design since 1931. The Number 86/70 Daisy features a lever arm inletted into the sporting pistol grip stock. Using the basic Number 102 Cub internal design, the new Daisy has a long fore-end and high combed stock, which, like the "Spittin' Image" series, makes the gun look not at all like a toy air rifle. It's just a guess, but if the medium-priced Number 86/70 is a market success, the old familiar lever-actions in Daisy's standard line may give way to a new look in B.B guns.

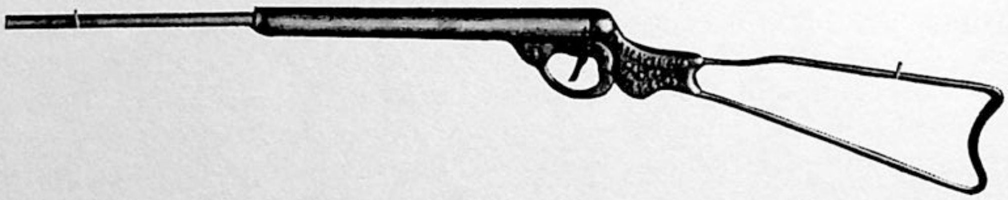
Daisy Product Chronology

1888 Daisy Hamilton or 1st Model: Single shot, top lever-action. First model Daisy manufactured by Plymouth Iron Windmill Company. Brass tube barrel and air chamber, cast brass frame, wire skeleton stock. Nickel plated. Post front sight. V-notch rear sight integral with cocking lever. Lever marked: DAISY.PLYMOUTH.MICHIGAN. No more than 1000 manufactured. (Rare) $100



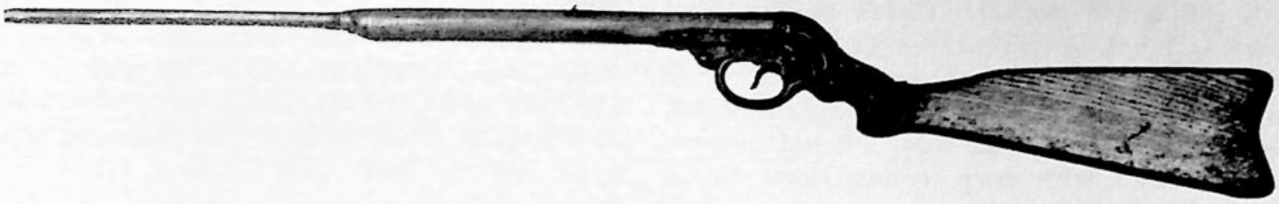
VARIATION: Model of 1889. First production model for retail. Identical to 1888 Model except has *cast iron* frame. No more than 5000 manufactured. (Rare) $90

1890 Daisy 2nd Model: Single shot, break-open. Plymouth Iron Windmill Company. Brass tubing barrel and air chamber, cast iron frame, wire skeleton stock. Nickel plated. Post front sight, V-notch rear integral with breech. Frame marked: DAISY IMP'D PAT' MAY 6, 90. No more than 50,000 manufactured from 1890–1900. (Rare) $80



VARIATION: Unmarked model. Identical to 1890 Daisy but without marks on frame. May be tool room model.

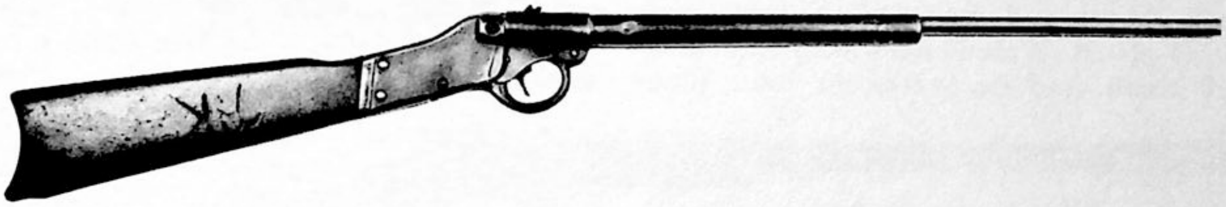
1891 Daisy 3rd Model: Single shot, break-open. Plymouth Iron Windmill Company. Brass tubing barrel and air chamber, cast iron frame, wire skeleton stock with wood insert. Nickel plated. Post front sight. V-notch rear sight. Frame marked: DAISY PAT. MAY 6,90, JULY 14, 91. This was the last cast iron frame Daisy. Manufactured from 1891 to 1897. No more than 60,000 manufactured. (Rare) $75



VARIATION: Same pattern, no wood, checkered breech plate, cast iron peep rear sight. Collector's note: absence of wood insert *without* checkered frame is not a variation; it is an incomplete specimen.

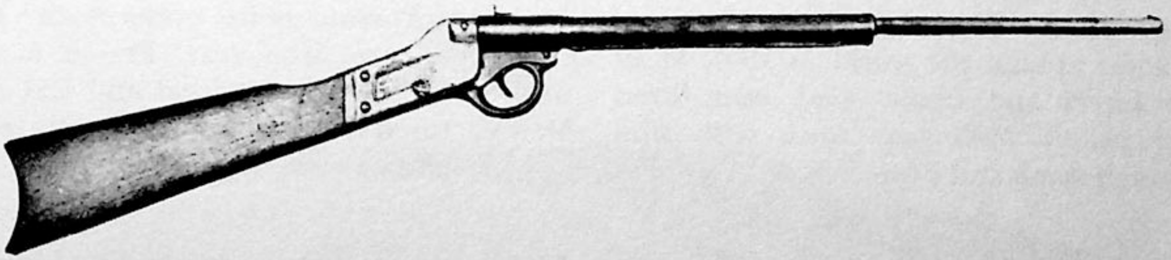
VARIATION: 1891 unmarked. Japanese copy. Wood stock.

1892 Daisy 4th Model: Single shot, break-open. Plymouth Iron Windmill Company. Sheet metal barrel, air chamber, frame. Cast iron trigger guard. Nickel plated. Walnut stock with deep crescent butt. Features first removable shot tube which permitted use of parts. Shot tube latch behind cast front sight. Peep rear sight. Flat sided frame marked: DAISY (between bulls eyes), left side; PATENTED AUG. 13, 1889, JULY 14, 91, JAN. 21, 92 right side. Introduced February 21, 1892, and manufactured until 1901 when frame and latch design were changed. (Very scarce) $65



VARIATION: Unmarked model. Identical to 1892 Daisy but without patent dates or bulls eyes. May be tool room model.

1901 Daisy Twentieth Century Single Shot: Single shot break-open. Daisy Manufacturing Company. Sheet metal barrel, plunger housing, frame. Cast iron trigger and guard. Nickel plated. Walnut stock with deep crescent. Removable shot tube with improved latch. Cast or sheet metal front sight, peep rear. Frame marked in indented rectangles: DAISY, left side; PATENTED AUG. 13, 1889, JULY 14, '91, JAN. 21,'92, MARCH 26, 1901, right side. Manufactured from 1901 to 1908. (Very scarce) $60

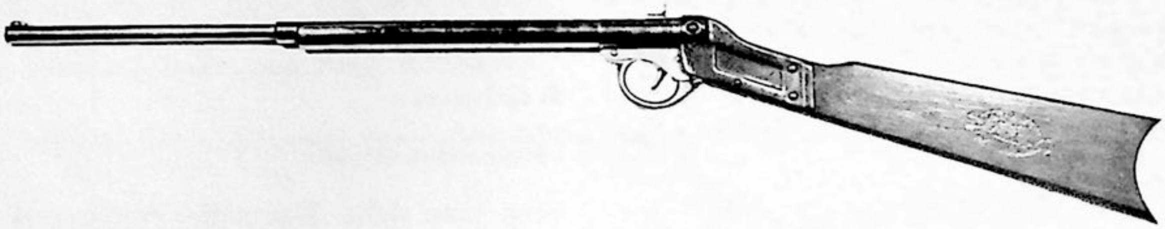


VARIATION: Some specimens with oval Daisy logo impressed in stock.

VARIATION: Early models have well shaped stocks; later models tend to be slab sided.

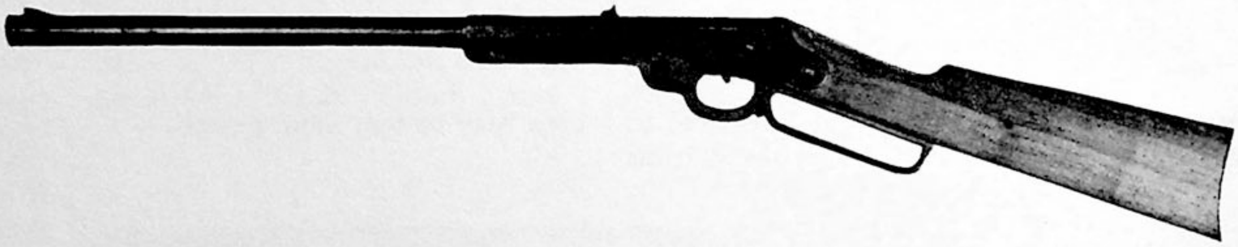
VARIATION: *1901 Hero.* Japanese copy.

1901 Daisy Twentieth Century Repeater: 350 shot break-open repeater. Daisy Manufacturing Company's first repeater. Sheet metal barrel, air chamber, frame and magazine tube. Cast iron trigger assembly. Nickel plated. Walnut stock with deep crescent butt. Front sight spring loaded and locks in L shaped slot. Globe rear. Frame sides have rectangular indentations marked: DAISY left side; PATENTED MARCH 26, 1901, JULY 30, 1901, OCTOBER I, 1901 right side. Manufactured from 1901 to 1912. (Very scarce) $65



VARIATION: Later models are distinguished by a less finely shaped and more slab sided walnut stock.

1901 Daisy Lever-Action: 500 shot lever-action repeater. Daisy's first lever-action. Sheet metal barrel and frame. Cast iron lever. Nickel plated. Walnut stock with slim wrist, high comb, and deep crescent butt. Blade front sight, cast iron rear. Frame is octagonal on top and joined with cross bolts underneath. Frame marked: 500 SHOT DAISY. Manufactured 1901 to 1912 in small quantities. (Rare) $75



VARIATION: Some few guns may have been blued.

VARIATION: As the model progressed, the stock shaping became less distinctive with a thicker wrist and lower comb. The lever loop also became more elliptical rather than straight at the top and curved at the bottom as on early models.

1903 Daisy Bennett Model: 1000 shot lever-action repeater. Charles H. Bennett carried this model around the world in 1907. Sheet metal barrel and frame. Cast iron lever. Nickel plated. Mahogany stock with slim wrist, high comb and deep crescent butt with butt plate. Frame is octagonal on top and joined with cross bolts underneath. Blade front sight, cast iron rear. Frame marked: 1000 SHOT DAISY in floral and leaf scroll. Manufactured from 1903 to 1912. (Rare) $80

VARIATION: Sample models were made in blue.

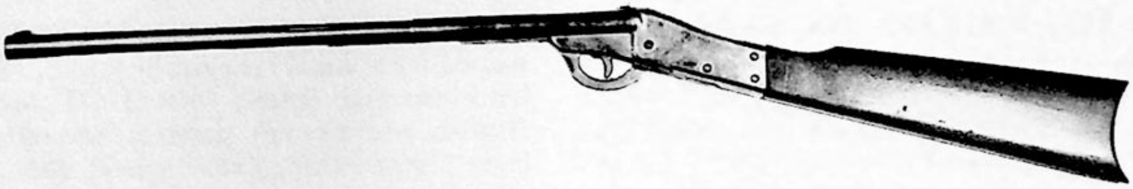
VARIATION: As the model progressed, the stock shaping became less distinctive with a thicker wrist and lower comb. The lever loop became more elliptical rather than straight at the top and curved at the bottom as on earlier models.

1904 Model B. 500 shot lever-action repeater. Two piece construction. Brass tubing barrel, sheet metal frame, cast iron rear. Small lug at junction of frame and barrel. Rear plunger anchor is a cross bolt through the frame. Walnut stock, well shaped with crescent butt. Top of frame marked: DAISY *500 MODEL B,* address and patents. Manufactured 1904 to 1912. (Scarce) $35

1905 Model B: 1000 shot lever-action repeater. Sheet metal frame and barrel, cast iron lever. Nickel plated. Loading port behind front blade. Cast iron rear sight. Two piece construction with folded metal lug and long air chamber seal soldered to barrel at junction of frame. Walnut stock, finely shaped with metal crescent butt plate. Top of barrel marked: DAISY 1000 SHOT, MODEL B with address and patents. Manufactured from 1905 to 1915. (Very scarce) $45

1905 DeMoulin Patent Masonic Initiation Guns: These are special model Daisy B.B guns adapted to shoot water. They were used in the early nineteen hundreds as part of the Rough Masonic Initiation ceremony. The guns were always produced in *pairs,* accompanied by a tinned water dipper. One of the pair shot water forward. The other shot water both forward and rearward from a small tube exiting at the top left of the frame and stock junction. CAUTION: Accumulated dirt and oil may discharge through the tube and into the shooter's eyes with enough force to cause discomfort and possible injury. Don't shoot one of these unless it is cleaned first. Identification: Stocks are stamped: DeMoulin Bros. & Co. Greenville, Illinois with '02, '03, '05, and '08 patents. One of the pair has a tube fitted to the bottom of the barrel for bleeding off some air for the rear squirter. This is easily recognized. The guns were made up from Daisy Model B, Model B Number 3, and Number 30 guns. They were always nickel plated and fitted with single shot tubes even though the gun frames are for lever-action repeaters. Only a few thousand of these pairs were made up and are difficult to find in good condition. (Very scarce) $100 the pair

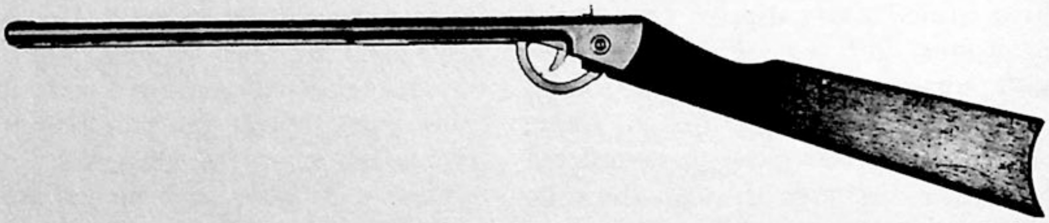
1907 Model A: 350 shot break-open repeater. Sheet metal frame, plunger housing and barrel. Cast iron trigger and guard. Nickel plated. Peep rear sight, blade front sight with loading port behind it. Walnut stock with deep crescent butt, well shaped. Frame marked: DAISY (between bulls eyes); address and patents on barrel top. Manufactured 1907 to 1914. (Scarce) $36



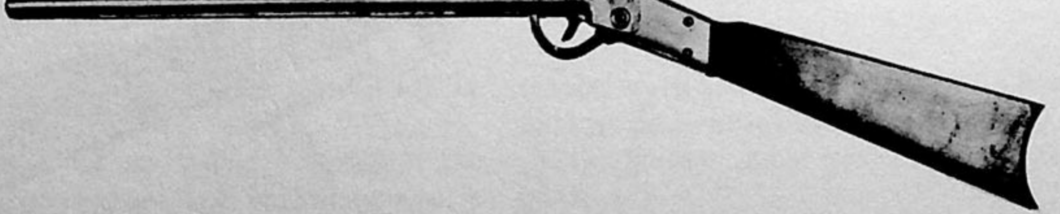
1907 Model A: Single shot break-open. Identical to Model A repeater with following exceptions: does not have loading port and is marked on barrel, DAISY SINGLE SHOT MODEL A. Manufactured from 1907 to 1912. (Very scarce) $41

1908 Little Daisy Number 20: Break-open single shot. The smallest and least expensive B.B gun made by Daisy. All have blade front sights and peep rear sights. In continuous manufacture with three model changes from 1908 to 1937. Specific models are described below.

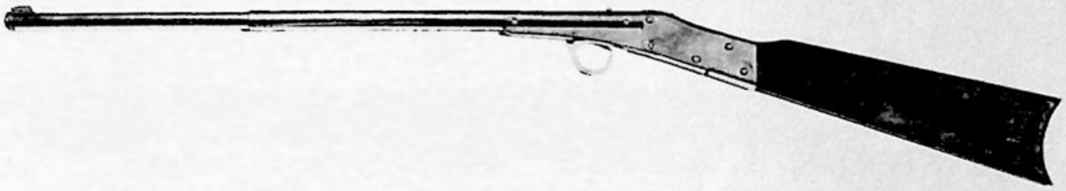
VARIATION: Model of 1908. Distinguishing feature: no grip frame. All sheet metal with cast iron trigger and guard. Nickel plated, walnut slab sided stock with crescent butt. Manufactured 1908 to 1911. (Very scarce) $20



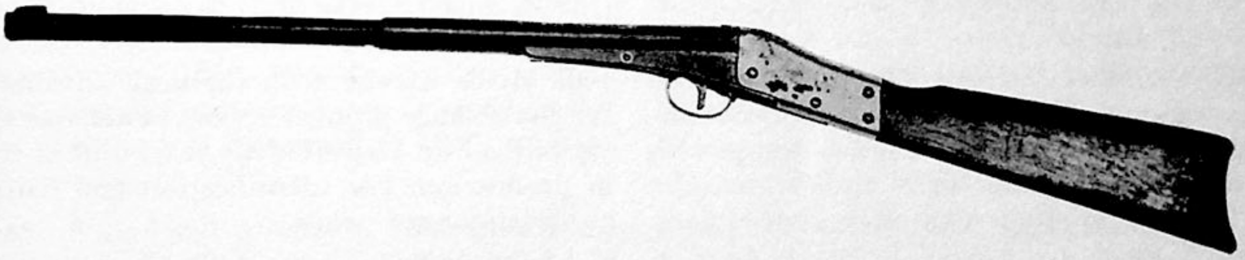
VARIATION: Model of 1912. Distinguishing feature; has grip frame. All sheet metal with cast iron trigger and guard. Nickel plated. Walnut slab sided stock with crescent butt. Manufactured 1912 to 1915. (Very scarce) $18.50



VARIATION: Model of 1915. Distinguishing feature; ring trigger, cast iron. All sheet metal. Walnut stock with crescent butt, birch or gum wood after 1930. Nickel plated 1915 to 1920, blued 1921 to 1932, nickel plated 1932 to 1935, blued 1935 to 1937. (Common) $8



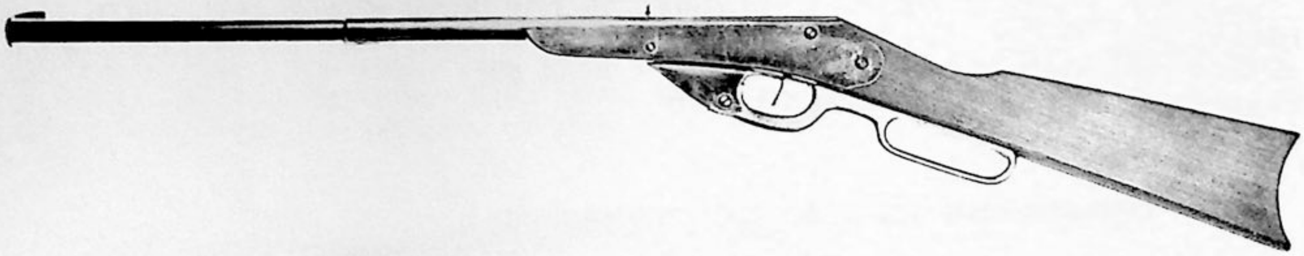
1912 Model C: 350 shot break-open repeater. All nickel plated sheet metal. Walnut stock with crescent butt. Loading port behind spring loaded blade front sight which locks removable shot tube. Peep rear. Frame marked: DAISY (between bulls eyes) both sides. DAISY REPEATER MODEL C and addresses and patents on barrel top. Manufactured 1912 to 1914. (Very scarce) $50



1912 Model C: Single shot break-open. Identical to Model C repeater except for lack of loading port. Has removable shot tube. Marked: DAISY SINGLE SHOT MODEL C. Manufactured 1912 to 1914. (Very scarce) $36

VARIATION: Some oak stocks were made.

1913 Model H (Hough Model): Single shot lever-action. All sheet metal one piece barrel and frame. All spot welded assembly; does not have the external plunger housing patch. Folded sheet metal front and rear sights. Distinctive single arm small loop lever, cast iron. 1913 Model was nickel plated; 1914 to 1920 models were blued and first production Daisys offered in standard blue. Walnut stock with crescent butt. Frame marked: DAISY (between bulls eyes) both sides, address and patents on barrel top. Manufactured 1913 to 1920. Nickel model (Rare) Blued model (Very scarce) $33



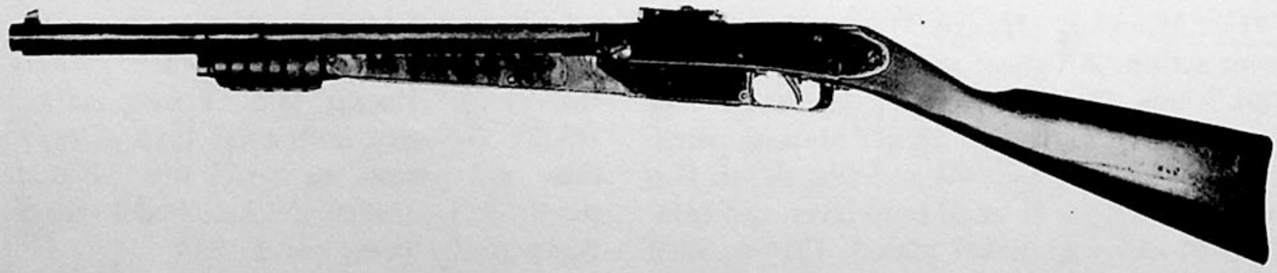
1913 Number 3, Model B: 500 shot lever-action repeater. Identical to the 1904 Model B with the following exceptions: folded metal rear sight rather than cast. Plunger anchor is rivet rather than bolt. Larger lug between barrel and frame protrudes one inch beyond frame. Stock tends to be slab sided. Frame marked on top: DAISY 500 SHOT MODEL B or NUMBER 3, MODEL B. Manufactured 1913 to 1925. (Scarce) $52

VARIATION: A few of these models were produced in BLACK NICKEL during the early 20s. (Very scarce) $75

1914 Model 3B Daisy Special: 1000 shot lever action repeater. This is a deluxe blued model which originally came in a color lithographed hinged lidded box. It is otherwise identical to the Model B 1000 shot. This gun should not be confused with the black nickel models which are glossy black over bright nickel. Manufactured from 1914 to 1920. (Very scarce) $70

1914 Number 25 Pump: 50 shot forced feed elbow-pump. This is the famous Lefever design. All sheet metal. Take down design with knurled bolt joining barrel and frame. The slide action of elbow type with long 14 inch pull yields excellent mechanical advantage for the 4 inch plunger throw. This was the top-of-the-line Daisy for 40 years and is still in production. For identification and dating of variations see below.

VARIATION: 1914 model. Blued finish with color case hardened lever. Straight well shaped walnut stock with deep crescent butt. Walnut slide handle has five grooves. Step elevated rear sight and adjustable front sight. Slide rod is held to barrel with claw mount extending up over sides of barrel. Trigger guard has folded sheet metal reinforced square back. Early models have large headed (penny sized) take down screws. Manufactured 1914 to 1924. Blued (Common) Bright nickel (Scarce) Black nickel (Very scarce) $105



VARIATION: 1925 Model. Similar to 1914 model with following exceptions: fixed front sight and a five or six grooved slide handle. Manufactured 1925 to 1933. Blued (Common) $45

VARIATION: 1936 Model. First use of stamped engraving on frame. Originally filled engraving with gold lacquer. Slide housing is blued rather than case hardened. Stock is usually gum or birch rather than walnut. Manufactured 1936 to 1941; 1946 to 1953. Blued (Common) $20

VARIATION: Guns after 1951 have register numbers on barrel top.

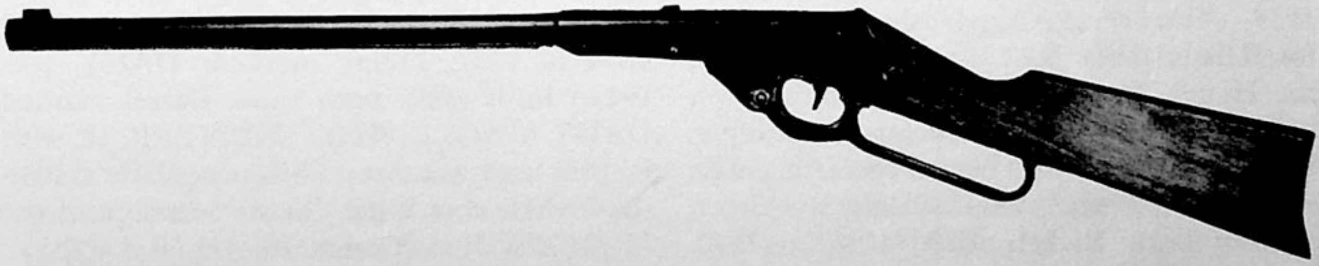
VARIATION: 1954 Model. First use of plastic stock and painted finish. Engraving design reduced to one stamping leaving out smaller scroll detail. Rear sight changed to two leaf V-notch and peep, front sight ramp. Scope mounting holes in right side of frame. Manufactured 1954 and 1955. (Common) $15

VARIATION: 1956 Model. No engraving; paint stenciled ornamentation changed yearly. Manufactured at Plymouth to 1957; at Rogers to date. (Common)

VARIATION: A number of special models of these guns have been produced from time to time. At least three are worthy of collector note. A scope sighted model with Model 40 scope attached was produced in 1952. An outfit including target, special corkball, extra barrel and other accessories was also produced in 1952. A special bronze finished model with blond stocks was produced at Rogers in 1958.

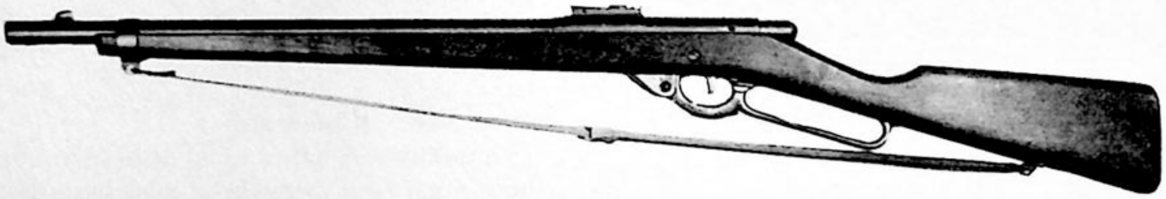
1915 Number 3 Model B: 1000 shot lever-action repeater. Identical to 1904 Model B with the following exceptions: has folded metal rear sight instead of cast iron and stock is less well shaped tending to slab sidedness. Manufactured from 1915 to 1934. Nickel plated (Scarce) $36 Black nickel (Very scarce) $85

1915 Number 30: 500 shot lever-action repeater. This is the successor to the Model B and a companion offering to the Number 3 1000 shot. Two piece construction, all sheet metal with large external plunger housing patch soldered outside. Front of patch is tabbed into barrel housing. Blade front sight, V-notch rear. Walnut stock with crescent butt. Blued. Manufactured 1915 to 1935. (Common) $18



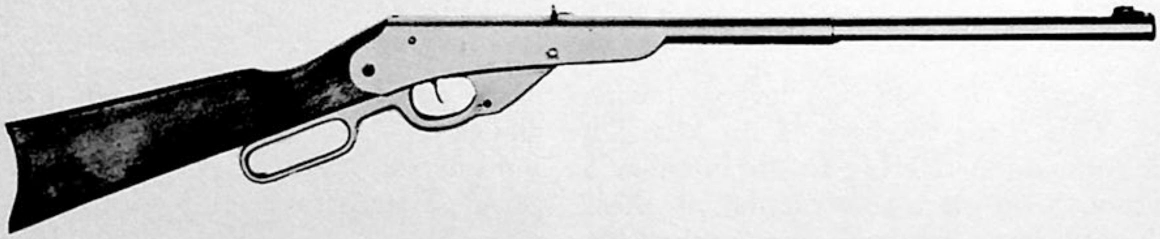
1916 Model H (Hough Model): 500 shot lever-action repeater. Identical to the 1914 Model H single shot with the following exceptions: Nickel plated, loading port behind the front sight; sight is a blade inset into barrel housing, barrel marked: DAISY 500 SHOT, MODEL H, with patents and address. Nickel plated. Manufactured 1916 to 1917. (Very scarce) $32

1916 Number 40 Military Model: 50 shot force feed lever-action repeater. Easily recognized by the walnut one piece full stock and sling swivels. Came equipped with web cling and rubber tipped ten-inch bayonet. Barrel has bayonet lug on bottom. Dummy bolt without bolt handle. Step elevated Model 25 rear 1932 in decreasing quantities. Rifle only (Scarce). With bayonet and sling (Very scarce) $75



VARIATION: Screw elevated rear sight, adjustable front sight, unusual shot tube with convex muzzle and tube protruding an eighth of an inch beyond muzzle cap. May be experimental or tool room model.

1917 Number 11: 500 shot lever-action repeater. In spite of its number, this is a continuation of the Hough Model H of 1916. One piece frame and barrel. Distinctive single arm small loop lever. Nickel plated. Walnut stock with crescent butt. Frame marked: DAISY (between bulls eyes) both sides. Barrel marked DAISY 500 SHOT, NUMBER 11, with address and patents. Manufactured 1917 to 1918. (Very scarce) $45



1918 Number 12: Single shot lever-action for B.Bs or darts. Basically a continuation of the Hough Model H but without the cross bolt through the frame to anchor the plunger. Sheet metal frame and barrel, cast iron single arm lever with small loop. Walnut stock with crescent butt. Nickel plated 1918 to 1919, blued 1920 to 1933, both blue and nickel 1934 to 1937. Frame marked: DAISY (between bulls eyes) both sides. Barrel marked DAISY SINGLE SHOT NUMBER 12 with address and patents. This was Daisy's standard single shot until the introduction of the NUMBER 101. (Common) $12.50

1919 Number II: 350 shot lever-action repeater. Continuation of the 1917 Model II with a new 350 shot designation and a blued finish. Models with the NUMBER II designation were manufactured until 1937. In general they are (Common). For purposes of identification and collection, however, note the following variations:

VARIATION: *Number II Model 24.* Same gun with the Model 24 designation added in 1924. Produced 1924 to 1929. (Scarce) $30

VARIATION: Nickel plated model produced for one year only in 1922. (Very scarce) $42

1925 Model 25: 500 shot lever-action repeater. Very similar in construction to the Number 30. Has two distinguishing features: bronze finish (paint) and no plunger anchor through the frame. Anchor was provided by folded metal device *inside* the frame. Front blade and rear V-notch sights are tabbed into the gun. Manufactured 1925 and 1926. (Very scarce) $50

VARIATION: *Model 27.* This is the same gun without the bronze finish. It is blued. Unknown length of manufacture; likely 1927 to 1933. (Scarce) $30

Author's note: The internal plunger anchor first appears in the Model 12 of 1918. These two guns may very well be extensions of the Model 12 design rather than the Number 30.

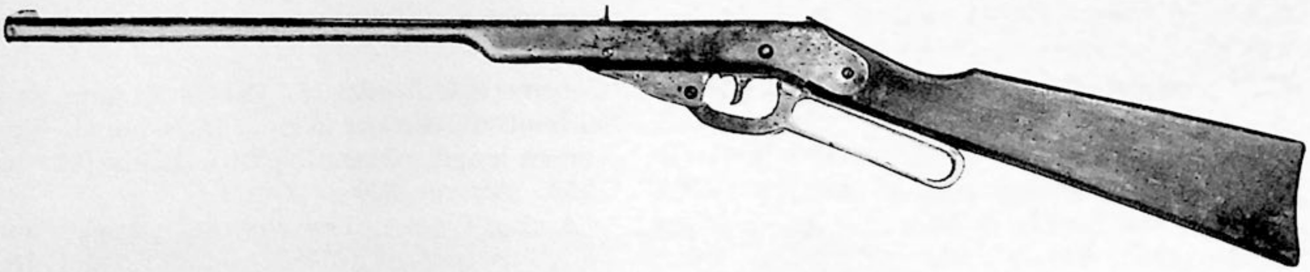
1929 Number II Model 29: 350 shot lever-action repeater. This was a hybrid model incorporating sights of the Number 30, the single arm Hough lever of the Number II, and the internal plunger anchor of the Number 12. It was nickel plated and marked on the frame with DAISY (between bulls eyes). Manufactured from 1929 to 1937. (Common) $15

1931 Number 155: 1000 shot lever-action repeater. All sheet metal large version of the Model H frame design. Newly designed streamlined lever. Straight stock, birch, or gum. Rifle butt. Pre WWII models have cast iron levers; postwar have aluminum. Manufactured as Daisy's lowest priced 1000 shot from 1931 intermittently to 1941 and 1946 to 1949. Prewar (Scarce) Postwar (Common) $10

1932 Number 105 Junior Pump Gun: 60 shot gravity feed straight pump. All sheet metal one piece frame and barrel. Blued. Slide action has no mechanical advantage; difficult to cock. Pistol grip walnut or birch stock and walnut fore-end. Blade front sight, V-notch rear. Manufactured for two years: 1932 to 1934. (Scarce) $25

1932 Ranger: 60 shot gravity feed slide-action repeater. This is the Number 105 design with a longer stock made for Sears Roebuck. This 37 inch model became the Buck Jones Special in 1934. Manufactured from 1932 to 1934. (Scarce) $25

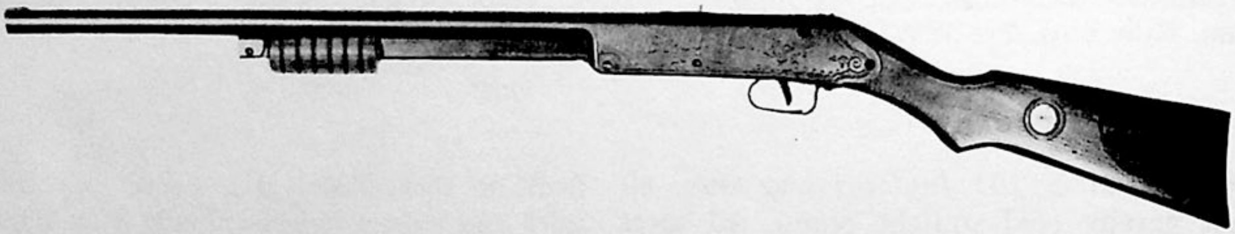
1933 Number 101: Single shot lever-action. The famous "Daisy for a buck." Mechanically the same as the Markham Number 21 with a distinctive low hung trigger. All sheet metal one piece design with a straight barrel and walnut stock. Nickel plated. Marked on barrel top: NO. 101 MODEL 33 with address and patents. Manufactured until 1936 when it was replaced by the Model 36. (Scarce) $17



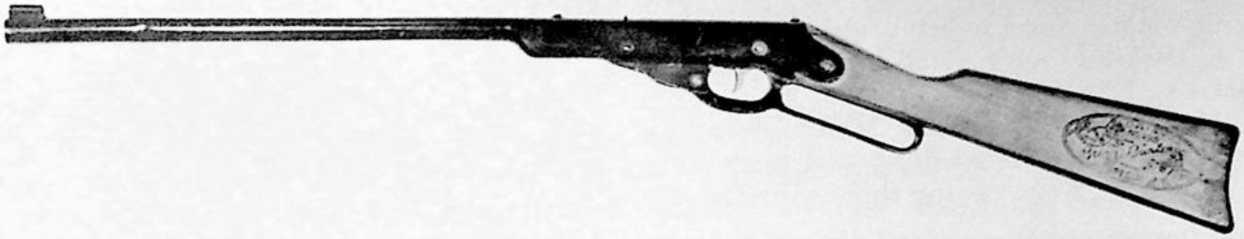
1933 Number 102: 500 shot lever-action repeater. Companion offering to the Number 101 with the same Markham design. Has a loading port. Nickel plated. Marked on barrel: Daisy Manufacturing Company, etc., with patents 880555 and 1062855, others pending. *No. 102 Model 33 500 Shot.* Manufactured to 1936 when it was replaced by Model 36. (Scarce) $20.

1934 Number 107 Buck Jones Special: 60 shot gravity feed slide-action repeater. A dressed-up version of the Ranger pump gun of 1932. Frame is scroll engraved on both sides of frame. Left side is engraved within scroll: BUCK JONES. Walnut pistol grip stock has compass and sundial. Manufactured 1934 to 1941. (Scarce) $45

Collector's note: original compass is marked DAISY on dial.



1934 Number 103 Buzz Barton Special: 1000 shot lever-action repeater. This is a Markham/King design based upon the King Number 55. It has a straight barrel and plunger housing with a patch soldered underneath. Cast iron lever. Walnut stock with the brand: BUZZ BARTON SPECIAL NO. 195 inside lariat with two cowboys. This gun is blued. Manufactured from 1934 to 1936. (Scarce) $32

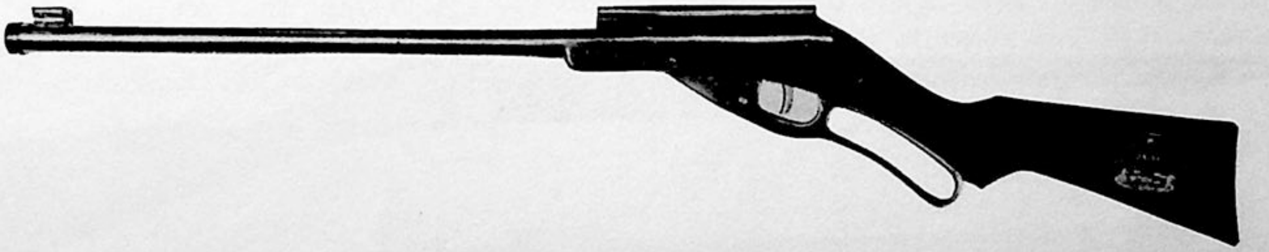


1934 Buzz Barton Super Special: 1000 shot lever-action repeater designed on a Number 3 Model B frame. This gun is easily distinguished by the rear sighting tube, bright nickel plate and the star shaped Buzz Barton brand in the stock. This gun seems to be unusually scarce. (Very scarce) $40

1936 Number 195 Improved Buzz Barton Special Model 36: This is a design change from the 1934 model. This is actually the Daisy Number 155 model with hooded front sight, rear sighting tube, and stock brand added. This gun is blued. Manufactured from 1936 to 1941. (Scarce) $20

1936 Number 195 Buzz Barton Super Special: 1000 shot lever-action repeater. This is identical to the 1934 Buzz Barton but dressed up after the introduction of the model 36 as a special model. Nickel plated with a paper stock label color lithographed with the lariat and riders. It was not handled by mail order companies; reserved for retail sales. Manufactured from 1936 to 1941. (Very scarce) $25

1936 Golden Eagle: 1000 shot lever-action repeater. Special copper plated model to commemorate the fiftieth year of Daisy production. Basically a Number 195 Buzz Barton with a pistol grip stock and curved lever (Daisy's first). Black painted stock with red, white, and blue federal eagle decal. Sold for $2.34 by Sears in 1937. Manufactured from 1936 to 1940. (Scarce) $40



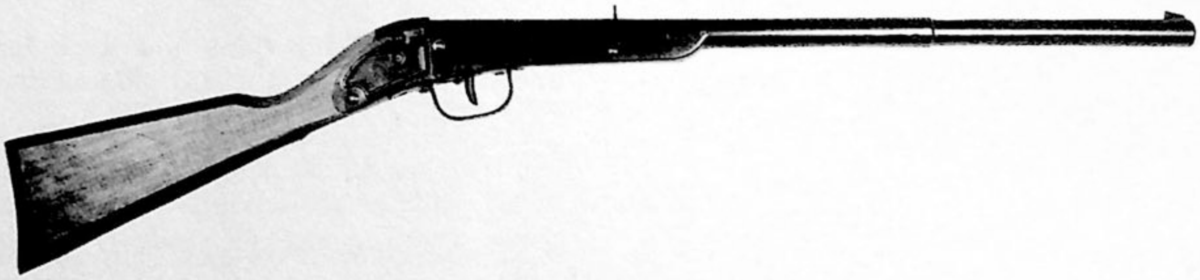
1937 Number 118 Targeteer Pistol: Slide-action repeater. A sub caliber .118 pistol intended for indoor target shooting. Action is a miniature of the rifle repeaters with the same screw-in shot tube and magazine.

VARIATION: 1937 Model. All sheet metal, blued. This gun is distinguished by fixed rear sight mounted about an inch forward of the breech. Manufactured from 1937 to 1940. Came with a carton which could be converted to a backstop with small spinning targets. (Scarce) $20

VARIATION: 1937 Special Model. As above but with nickel plated finish and more elaborate target carton having three spinning targets instead of the standard two. 1937 to 1940. (Scarce) $24

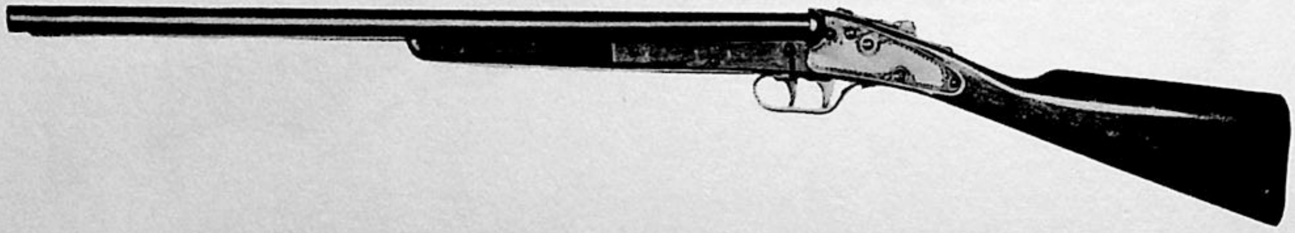
VARIATION: 1946 Model. All sheet metal, blued with an adjustable rear sight. Came with target carton. Manufactured from 1946 to 1952. (Common) $12

1938 Number 100 Model 38: Single shot break-open. All sheet metal with Hough model frame and barrel. Shot tube not removable. V-notch rear sight, folded sheet metal front blade. Gum stock with rifle butt. Unusually nice shaping for model of this period. Top of frame marked: DAISY SINGLE SHOT NO. 100 MODEL 38. Manufactured 1938 to 1941 and 1946 to 1949. Blued. (Common) $10



1939 Number 108 Lightning Loader: 1000 shot lever-action repeater. Number 155 pattern. First Daisy with loading tube under barrel. Birch or gumwood pistol grip stock and fore-end. Predecessor to the Red Ryder Carbine. Bayonet model produced in 1940. Manufactured 1939 to 1941; 1946 to 1949. Bayonet model (Very scarce) $30. Prewar model (Scarce) $15. Postwar model (Common) $10

1940 Number 104 Double: 96 shot break-open double barrel force feed repeater. All sheet metal design consisting of side by side break-actions with double triggers and shot tubes of the Number 25 type. Dummy side locks. Blued. Walnut stock and fore-end. Stamp engraved with game birds, dogs, and scrolls. Manufactured from 1940 to 1941. (Very scarce) $65



VARIATION: MODEL 21 and MODEL 410. These are recent models produced at Rogers, Arkansas and are distinguished by plastic stocks and electrostatic paint finish.

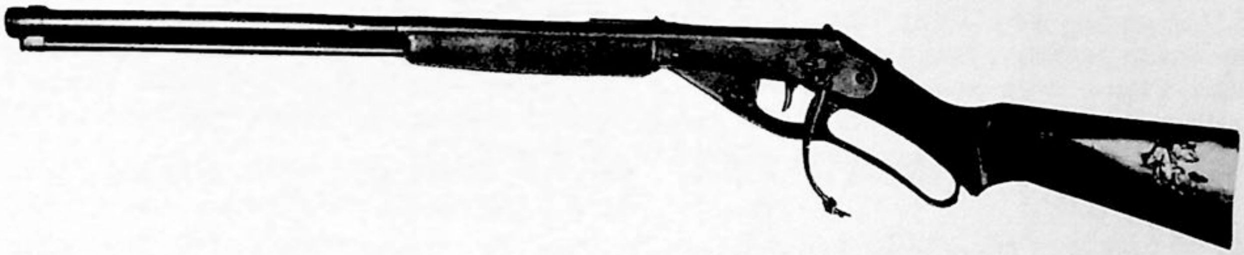
VARIATION: Salesmen's samples. Hand made in 1968 with walnut checkered and carved stocks. Only 25 produced.

1940 Number 111 Model 40 Red Ryder Carbine: 1000 shot lever-action repeater. Perhaps the most famous B.B gun ever made. All sheet metal Number 155 design with lightning loader tube, saddle ring with leather thong. Birch or gum pistol grip stock and fore-end with barrel band. Red Ryder brand with horse and rider on stock. There are many variations.

VARIATION: 1940 Model. As above; distinguished by cast iron lever, blued and copper plated barrel bands. Manufactured 1940 to mid 1941; small number made in 1946. (Common) $30

VARIATION: 1947 Model. As above; distinguished by cast aluminum lever, painted black. Some models have copper plated barrel band. (Very common) $20

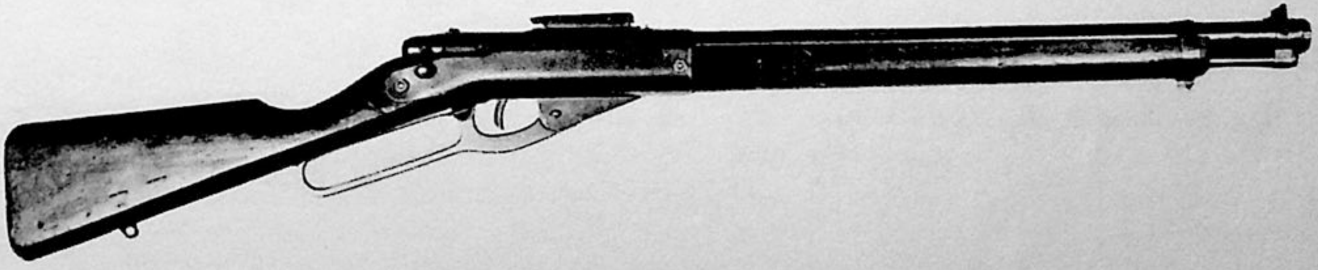
VARIATION: 1952 Model. As above; distinguished by plastic fore-end and plastic stock. Red Ryder brand was impressed in the pistol grip stock. (Very common) $15



VARIATION: 1956 Model. Easily recognized by plastic stock and fore-end without pistol grip. Finish is painted rather than blued. Rear sight is two leaf peep and V-notch mounted at extreme rear of frame. High front sight, dummy hammer on stock, and longhorn cattle portrait design on stock. This was the last Red Ryder and manufacture was discontinued when company moved to Rogers in 1958. (Very common) $5

VARIATION: In 1951–52, a scope sighted model was sold. The scope was a target type of blued sheet metal.

1941 Number 140 Defender Military Model: 1000 shot lever-action gravity feed repeater. This was the new wide frame design with two-piece construction used today on all target and Quick Skill/Kill models. Came equipped with rubber tipped bayonet, web sling, dummy bolt with handle, and two piece military wooden stock. Had lightning loader magazine, screw elevated rear sight. Manufactured only in 1941. (Very scarce) $60



1952 Number 141 Defender: 1000 shot lever-action repeater. Korean War spin-off from Military Model 140 with same wide frame design. Plastic stock and fore-end. First Daisy designed specifically for plastic stocks. Sling. Pistol grip stock and shrouded rear sight. Manufactured to 1955. (Common) $10

VARIATIONS: Guns may be found with wood butt stocks, blue or paint finish, oil ports, and scope holes in frame, in any combination. These were all production guns with which much experimentation was done.

1955 Number 106 Daisy Standard: 250 shot break-open repeater. This is the last Plymouth, Michigan, design. Unusual sliding breech cover added to basic Number 100, Model 38 design. Forward end of cover held down by folded metal tabs riding in slots are prone to breaking off. Blued/paint finish with wood stock. Manufactured 1955 to 1957 at Plymouth and 1957 to 1959 at Rogers. (Common) $5

1955 Number 80 Long Rifle: 1000 shot lever-action repeater. Basically a Number 155 design. Plastic stock and fore-end. Stock has kneeling frontiersman and long rifle with LONG RIFLE embossed and filled with gold paint. Fore-end is channeled for lightning loader tube, but is the correct fore-end. Equipped with sling. Blued/paint. Frame has holes for scope. Manufactured 1955 to 1956. (Common) $5

1955 Number 75 Daisy Scout: 500 shot lever-action repeater. Basically a Number 102 Cub Model 36 with blond or mahogany plastic stock and fore-end. Fore-end channeled for lightning loader tube but is correct fore-end. Bright metal barrel band with sling. Blued/-paint with DAISY SCOUT in gold stencil on frame. Retailed for $6.95. Manufactured 1955 to 1961. Early models manufactured at Plymouth, Michigan. (Common) $5

1958 Number 94 Western Carbine: This is the successor to the Red Ryder Carbine. Has saddle ring with leather thong, various stenciled cowboy designs on frame, dummy hammer on some models, lace-on leather butt stock pad on some models. Earliest models were 1000 shot. Later models reduced both shot capacity and overall length from 35 inches to 32 inches. There are at least four of these models as follows: Rogers, Arkansas models 1000 shot, 850 shot, 500 shot, and 450 shot introduced in that order from 1958 to 1962. (Common)

1958 Number 98 Daisy Eagle: 1000 shot lever-action repeater with 2X scope. Wide Number 140 frame. Pistol grip stock, sporter front-end; blond plastic. Leather sling. Blued/paint. Gold eagle decoration on frame and eagle medalion embossed on butt stock. Retailed for $13.95. Manufactured 1958 to 1961. (Common)

1958 Number 177: 150 shot slide-action B.B pistol. A dressed-up reissue of the Number 118 Targeteer. Plastic thumb rest stocks and dummy barrel weight. Blue/paint finish. Manufactured from 1958 to date at Rogers, Arkansas. (Very common)

1958 Number 107 Trombone Action Repeater: 500 shot straight pull slide-action repeater. A revived version of the Buck Jones Special design. Plastic checkered stock and Number 25 fore-end. Blued/paint finish. DAISY embossed on slide. Thirty-six inches long. (Very common)

VARIATIONS: Designation changed to 450 shot in 1959; further reduced to 375 in 1961 when the stock was shortened to make overall length 31½ inches. Last models do not have checkering and use a Number 102 Cub butt stock with the lever groove filled in with a folded metal plate.

1959 Number 99 Target Special: 850 shot lever-action repeater. A continuation of the Number 140 wide frame design. Heavy wood butt stock and fore-end, adjustable leather sling, target sights. Manufactured 1959 only in gravity feed. Forced feed of the Number 25 type introduced in 1960 and manufactured to date. 1959 model (Very common)

1960 Number 179: Peacemaker Revolver. Twelve shot pistol. Only Daisy toy B.B gun with no air power. Operates on spring power only. Manufactured at Rogers, Arkansas: 1960 to date.

VARIATION: Hand made sales samples manufactured of milled brass. Only 165 were produced.

VARIATION: *Model Number 180.* Daisy B.B six gun with DAISY marked leather belt and holster.

1961 Number 83 Daisy Scope Gun: 350 shot lever-action repeater with scope mounted. Basically a 102 Cub with lightning loader and fore-end with bright barrel band. Manufactured 1961 to date.

1961 Model 88 Hunter: 750 shot lever-action repeater equipped with 2X scope. Successor to the Model 80. Plastic stock has circle with cross hairs embossed design. Bright barrel band and sling. Manufactured 1961 to 1962.

1961 Model 97: 850 shot lever-action repeater. Basically a redesigned model 94 Western Carbine with a dummy hammer and a lace-on butt pad. Incorporated the Daisy Ricochet Sound device. Manufactured one year only.

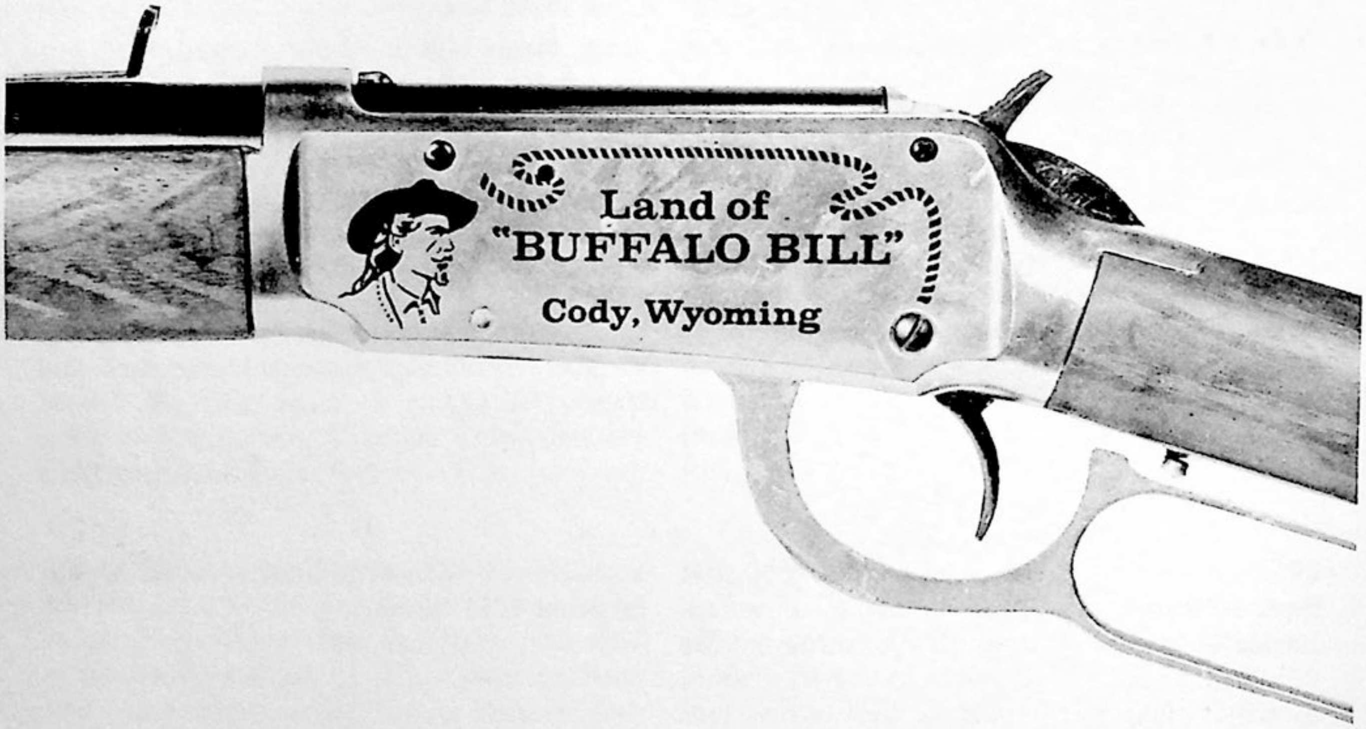
1961 Model Number 1797 Special 75th Anniversary Set: A combination of the Model 97 Ricochet Sound Saddle Gun and the Model 197 Six Gun Revolver boxed. Manufactured one year only.

1961 1894 Western Carbine: 45 shot lever-action repeater. Spittin' Image model of the Winchester 94. Cocks on both opening and closing strokes. Hammer safety. Manufactured at Rogers 1961 to date.

VARIATION: *Buffalo Bill Model.* Bright finished frame with Buffalo Bill signature. Saddle ring on barrel band with thong. Medalion in stock. 1969 to date.

VARIATION: *Centennial Model.* Manufactured by Daisy for Sears in 1970. Replica of the Winchester Golden Spike rifle. Octagon barrel, brass finished frame, fore-end cap and butt plate. 50,000 manufactured in 1970.

VARIATION: *Cody Model.* Manufactured for sale only through Buffalo Bill museum in Cody, Wyoming. 1969 to date.



1962 Number 95: 700 shot lever-action repeater. A standard plinking model of the Target Special with open sights, straight stock and sporter fore-end. Manufactured 1962 to date.

1963 Number 96: 700 shot lever-action repeater. Medium priced plinking model of the Target Special with pistol grip and high comb and open sights. Manufactured 1963 to date.

1963 Number 111: 700 shot lever-action repeater. Basically the old Red Ryder, but with straight stock and stenciled scroll designs. These are one of the present Daisy standard line guns.

1964 Number 26/572 Field Master: 45 shot slide-action repeater. Spittin' Image of the Remington rifle. Manufactured 1964 to 1967 as the Model 26; thereafter to date, as the 572.

1966 Number 104 and *1776:* 500 shot lever-action repeaters. Essentially reintroductions of the basic Number 155 designs. The Golden Eagle model has a plastic peep scope. Manufactured at Rogers 1966 to date.

1967 Number 2299 Quick Skill/Kill: Forced feed lever-action repeater. Specially developed for aerial instinct shooting and military training. Basically a Number 96 without sights and hefty wooden stock and fore-end. Manufactured 1967 to date.

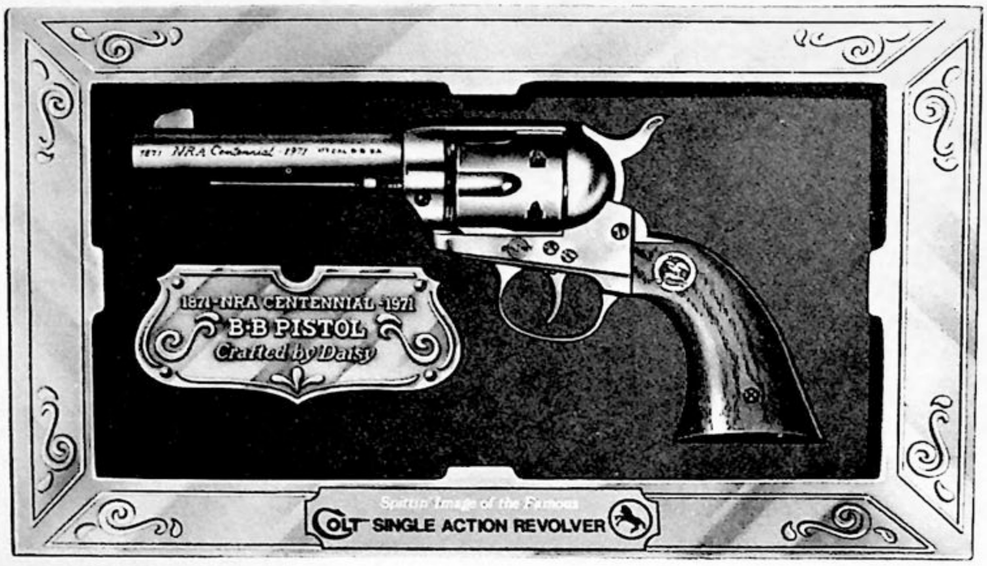
VARIATION: U.S. Army model Quick Kill. 30,000 of these rifles are in regular training service with the U.S. Army Training Command. As yet none have been released as surplus. These models will be U.S. marked.

1970 Daisy 86/70: Lever-action repeater. Streamlined and refined version of the standard 102 Cub. Shipped to dealers in October 1970. Distinguishing feature is a lever concealed in wrist and pistol grip.

1971 Model 5894 Carbine, NRA Commemorative: Limited collector edition produced in 1971 only. Antiqued bronze finish with NRA medallion and inscription: 1871—NRA Centennial—1971. Supplied with combination carrying and display carton.

NATIONAL RIFLE ASSOCIATION CENTENNIAL CARBINE

1971 Model 5179 Pistol, NRA Commemorative: Limited collector edition produced in 1971 only. Antiqued bronze finish with NRA medallion and inscription: 1871—NRA Centennial—1971. Supplied in shadow-box carton.


1871-NRA CENTENNIAL-1971
B·B PISTOL
Crafted by Daisy
Spittin' Image of the Famous
COLT SINGLE ACTION REVOLVER

4

A PROFUSION OF ALSOS

The inexpensive give-away B.B guns produced by lesser known companies were more than the salvation of boys without money; they were sometimes the salvation of the company as well. Public acceptance of the Upton Machine Company's washing machines was slow in coming and for many years their B.B gun sideline generated 5 times the revenue from washers.

Introduction

Daisy's more than half century domination of B.B gun manufacturing makes it easy to assume that it was always so. Nothing could be further from the truth.

In the decades 1890 to 1910, Daisy was but one of more than a dozen companies competing for a part of the large new market in toy air rifles. Few other products of that period were as highly competitive; few other products stimulated as much imagination in inventors and investors. Capital outlay necessary to begin making B.B guns was relatively small; tools once made up could be used on any punch press whose owner would contract for the job. Not surprisingly, such guns were produced in very small quantities and collectors can expect to find an almost endless variety of specimens.

While the greatest activity in B.B gun manufacturing occurred in the Antique Period, competitors continued to enter the field during both the Collectible and Vintage Periods, although with decreasing frequency. Over the years, more than 20 companies have produced B.B guns in America. Most of them are included in this chapter.

Plymouth, Michigan, was the home of two shortlived B.B gun companies in addition to the well known Daisy and Markham enterprises. The Plymouth Air Rifle Company began production of the MAGIC in 1891, using patents which may have been the work of Merritt Stanley and/or G. W. Sage. The company closed its doors after only one year of production and all patents, tools and other equipment was sold to a Detroit firm which continued the production of the guns under the trade name BIJOU.

Clarence Hamilton, the designer and inventor of the first all metal Daisy, began a manufacturing company of his own in Plymouth in 1900. One of his first projects was a B.B gun which used an unusual side lever-action. It is not known at this time whether such guns were ever mass produced, but Hamilton did not pursue B.B gun manufacturing for long, choosing instead to concentrate on inexpensive .22 caliber boys' rifles.

Three B.B gun companies were active in Detroit at the turn of the century. None appear to have been very successful in spite of some novel and attractive designs. Most successful was the MATCHLESS produced by Henry C. Hart Manufacturing Company from about 1890 to 1900. The first successful repeater, the Matchless was widely sold through both Sears Roebuck and Montgomery Ward catalogs.

Decker Manufacturing Company of Detroit produced the BIJOU line with tools and dies purchased from the defunct Plymouth Air Rifle Company. Decker eventually changed over from cast iron construction to folded sheet metal for the production of cheap air rifles which appear to have been sold largely as premiums.

The Hexagon Air Rifle Company's novel design, which had a B.B magazine in the butt stock, did not prove popular. Only one model of the gun was produced in Detroit and collectors can expect difficulty in locating a good specimen.

In Northville, Michigan, a town close enough to Detroit that the hill on its main street was used by early automakers as a test track, the Dubuar Manufacturing Company produced the GLOBE line. Design work was done by Merritt Stanley, who had moved there from Plymouth. The company was active for enough years to graduate from early cast iron construction to more modern sheet metal designs in a variety of models. Globes were sold both as retail and premium items.

The Upton Machine Company of St. Joseph, Michigan, had acquired air rifle designs and tools from the bankrupt American Tool Works of Chicago just prior to World War I. They established a marketing agreement with Sears Roebuck shortly thereafter and continued to supply Sears with B.B guns until the 30s. While B.B gun manufacturing was immediately profitable for the company, the relationship it had initiated with Sears during the war later gave it a ready market for its washing machines. With that business flourishing, the Uptons decided to get out of B.B gun business and sold its tools and dies to All Metal Products of Wyandotte who produced B.B guns for only a short time before giving up to concentrate on cork guns.

Other companies in Lower Michigan included the Crescent Gun Company of Saginaw and the Wheeler Company of Grand Rapids. Crescent Gun Company was a subsidiary of the Crescent Salt Company, proving that almost anybody could get into the B.B gun act. A. K. Wheeler of Grand Rapids produced a flashy nickel plated all metal B.B gun of somewhat futuristic proportions—too futuristic perhaps because it failed to find a ready market.

In New York State, Ilion was the home of two B.B gun manufacturers. During the Antique Period, the Atlas Gun Company produced a variety of lever-action and break-open guns beginning in 1890. Reliable and attractive, the ATLAS line contained a number of desirable features which lead to its purchase by Daisy just after the turn of the century. Much later, Ilion's best known arms company, Remington, introduced its Model 26 pump-action B.B gun. It was a well designed air rifle put together with all the quality touches for which Remington is justifiably famous. The Depression cut production off in 1930 after only two years.

New York State's best known air rifle manufacturer was Quackenbush of Herkimer. Quackenbush was the designer of a number of pre B.B gun parlor pistols and rifles using spring air principles. However, only one of his guns is of interest here: the HERKIMER, produced in 1907. Earlier Quackenbush designs were powerful and intended as serious air guns for sporting and target work by adult shooters.

One present day company, Crosman Arms Company, Incorporated, is producing B.B guns in Fairport, New York. Using a basic

Quackenbush push-barrel design, their V-350 has been a steady seller. Two variations of the design are currently produced.

Data concerning Chicago B.B gun manufacturing is surprisingly scarce. However it does appear that some of the companies cited in other sources were not manufacturers but distributors. With the exception of the Chicago Rifle Company, American Tool Works, and the Bulls Eye Air Rifle Company, the author is convinced that previously cited Chicago concerns were probably wholesalers. One such company is the Adams Westlake Company which is still in business. Neither the author nor the company could find any records pertaining to manufacturing of B.B guns by the company. Nevertheless, specimens exist with such markings and are included in this chapter.

Chicago manufacturers produced some of the best and some of the worst give-away guns. American Tool Works produced one of the most widely distributed premium B.B guns. Big and impressive, its STERLING lever-action continued to be produced in large quantities by the Upton Machine Company after it had purchased American Tool. The Chicago Air Rifle Company apparently produced only one model: the SIMPLEX. It was a poorly designed, under powered and inexpensive air rifle intended largely for the premium trade. It was very likely the most disappointing air rifle a boy could receive in payment for any kind of labor.

In contrast, another Chicago firm, the Bulls Eye Air Rifle Company, produced two solidly made and functionally designed B.B guns. Its break-open model was not particularly novel but had attractive lines. The lever-action used a unique geared lever-action similar to the rammer on an 1860 Army Colt revolver.

Philadelphia was the site for B.B gun production by the Heilprin Company from as early as 1890 to about 1910. The Heilprin guns were noteworthy both for their elaborate design and high price. They bore a strong external resemblance to expensive European rifles and were in a class apart from ordinary folded sheet metal guns produced by other American manufacturers.

Both Milwaukee and Neceeda, Wisconsin, were chosen by Earl Shue for the manufacture of B.B guns he designed. Shue did not enter the B.B gun field until at least 1914 and may not have stayed long. The author has never seen a specimen of the SHUE air rifle. From bits and scraps of literature, it is certain that such a gun was produced, although no records indicating how many or at what price have been found.

The newest B.B gun manufacturer included in this chapter is the Marksman Company of Los Angeles, California. Marksman began in the 50s producing an unusual slide action B.B pistol resembling a 45 Government automatic. The design has been changed at least once since that time. A change of ownership occurred in 1969. The Marksman Air Pistol is currently being produced.

The last guns to be included in this chapter are those which must be classified as unknowns. In spite of the author's best efforts, some specimens could not be linked with any known manufacturer. In other cases, only patents exist to suggest that there may be a production gun somewhere to match. In either case, what little is known can be used as a starting place by the collector fortunate enough to have acquired one of these unusual specimens.

By far the largest share of the smaller B.B gun companies' products were sold in lots to be given away as premiums. This meant that the guns had to be low priced and as a consequence they were not always well designed or carefully manufactured. Sometimes the stock of such a gun carried the advertising message of the company awarding the premium. Specimens of this kind of stock stamp have been found for Chicago Rifle Manufacturing Company's SIMPLEX and J. A. Dubuar's WARRIOR.

The best remembered of the give-away companies who used boys as salesmen was the Cloverine Salve Company. They did not give away the usual premium guns, however; they gave away Daisys.

Smaller companies like that of George

Gates, Dept. 910, Chicago, offered boys a Sterling air rifle for selling 25 art and religious pictures or 25 packages of postcards at 10¢. The U.S. Supply Company, Box X, Greenville, Pennsylvania, gave away a little Daisy single shot for selling 15 packages of 10¢ Golden Eye Needles.

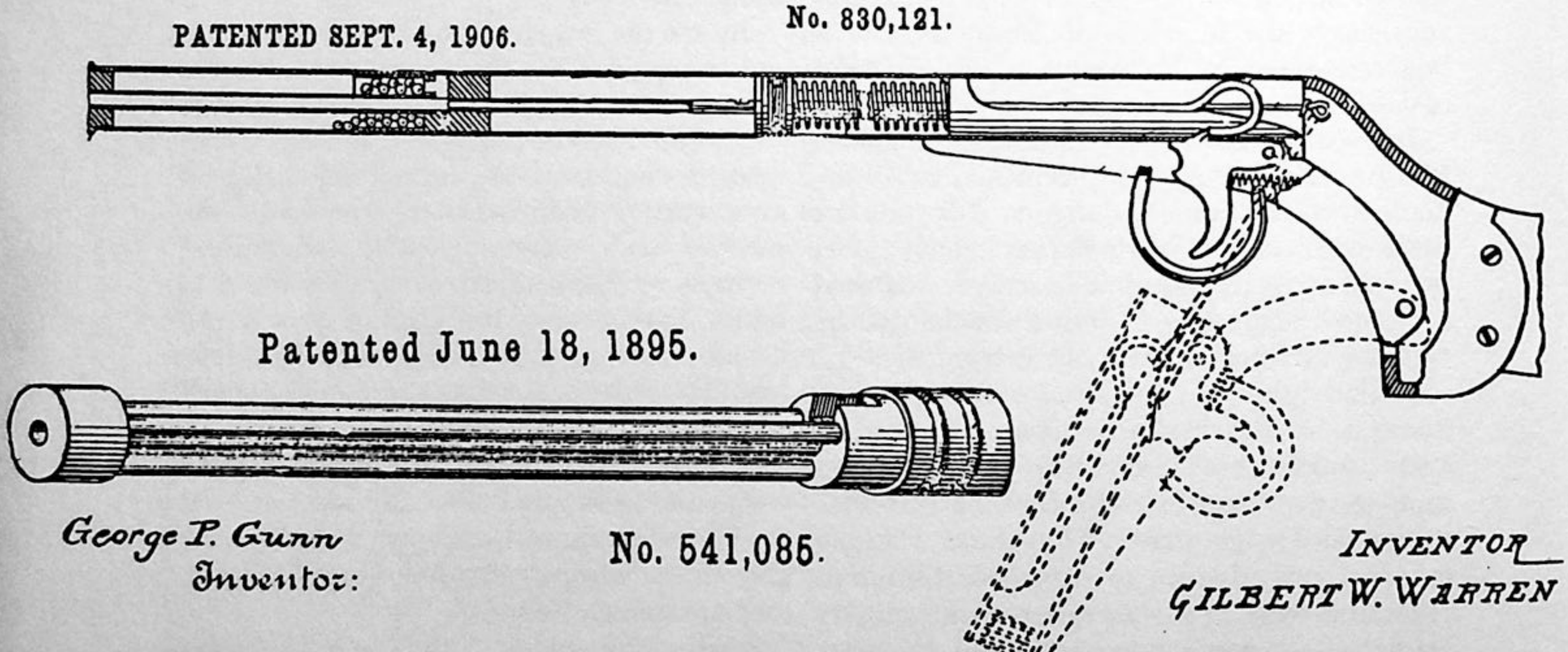
Some companies gave premiums to salesmen and customers alike. In 1904, the Peerless Manufacturing Company of Greenville, Pennsylvania, was offering an air rifle that looked like the BIJOU or HEXAGON for selling two dozen papers of needles at 5¢ each. Each customer who bought two needle papers received a silver aluminum thimble free. The $1.20 returned by the child covered the cost of the air rifle and profit for the company. B.B guns were not terribly expensive in 1904.

The total output of these companies must number in hundreds of thousands. The exact number of each model produced per company is unknown. Since the punch press by which air rifles were made could be simply adapted to other products merely by changing dies, a company could make a short run of guns to fill an order and then not produce any more guns until such an order, if ever, came.

Almost 40 years later, another Pennsylvania company was offering the Daisy Lightning Loader Carbine, Number 108, Model 39 for selling 40 packages of seeds at 5¢ each. By that time, Daisy and Markham were dominating the B.B. gun field. The days of the cheap giveaway guns were over.

In spite of their short lives and lack of visibility, the contributions of the "alsos" to the development of the B.B gun should not be under-appreciated. More than a few companies owned patents that contained features valuable enough to be purchased and incorporated into the design of the better known Daisy and Markham guns. Others, simply by their presence, stimulated continued research and development in their competition and so contributed to the eventual improvement of later model guns.

Most importantly, the producers of off-brand and giveaway B.B guns were the salvation of thousands of penniless but energetic boys in whose hands a hard-earned Sterling or Globe provided as much happiness as a



top of the line Daisy.

Section 1: Atlas and Victor/Atlas Gun Company/Ilion, New York

The Atlas Gun Company was established in Ilion, New York, about 1890. After sixteen years of B.B gun production, the company was purchased by Daisy Manufacturing in 1906. Production was thereafter discontinued.

Atlas manufactured two models each of two basic designs. All were gravity-fed repeaters: common break-opens or peculiar lever-actions which extended forward rather than rearward from the trigger and had a ring rather than loop design.

Designer of the Atlas Gun Company's break-open was George P. Gunn, who secured a patent on the basic design in June 1895. Production of the first Atlas break-open was begun before that in 1890 under an earlier patent, granted in 1886, which did not directly refer to the B.B gun design. However, G. P. Gunn had been a partner in the firm of Haviland and Gunn of Ilion, who had been makers of break-open air rifles for adult shooters. One of that team's earliest patents goes back to 1871.

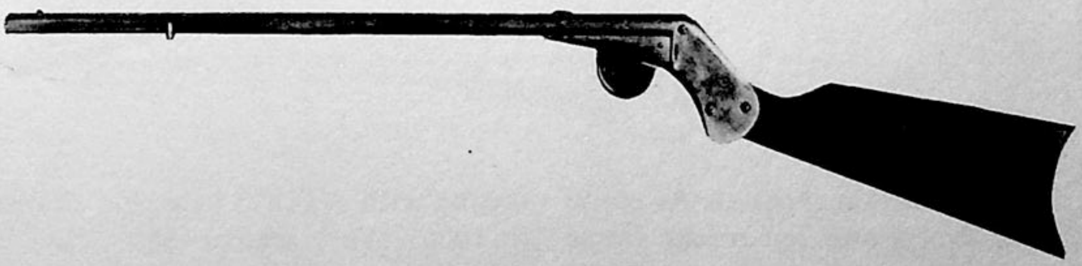
The patentable feature of Gunn's application was the repeating mechanism. Three iron rods running parallel to the shot tube supported the muzzle cap and the shot tube breech and at the same time provided a raceway for the gravity feeding of B.Bs. In other features, Gunn's patent simply duplicated the 1890 Atlas as it was then being produced.

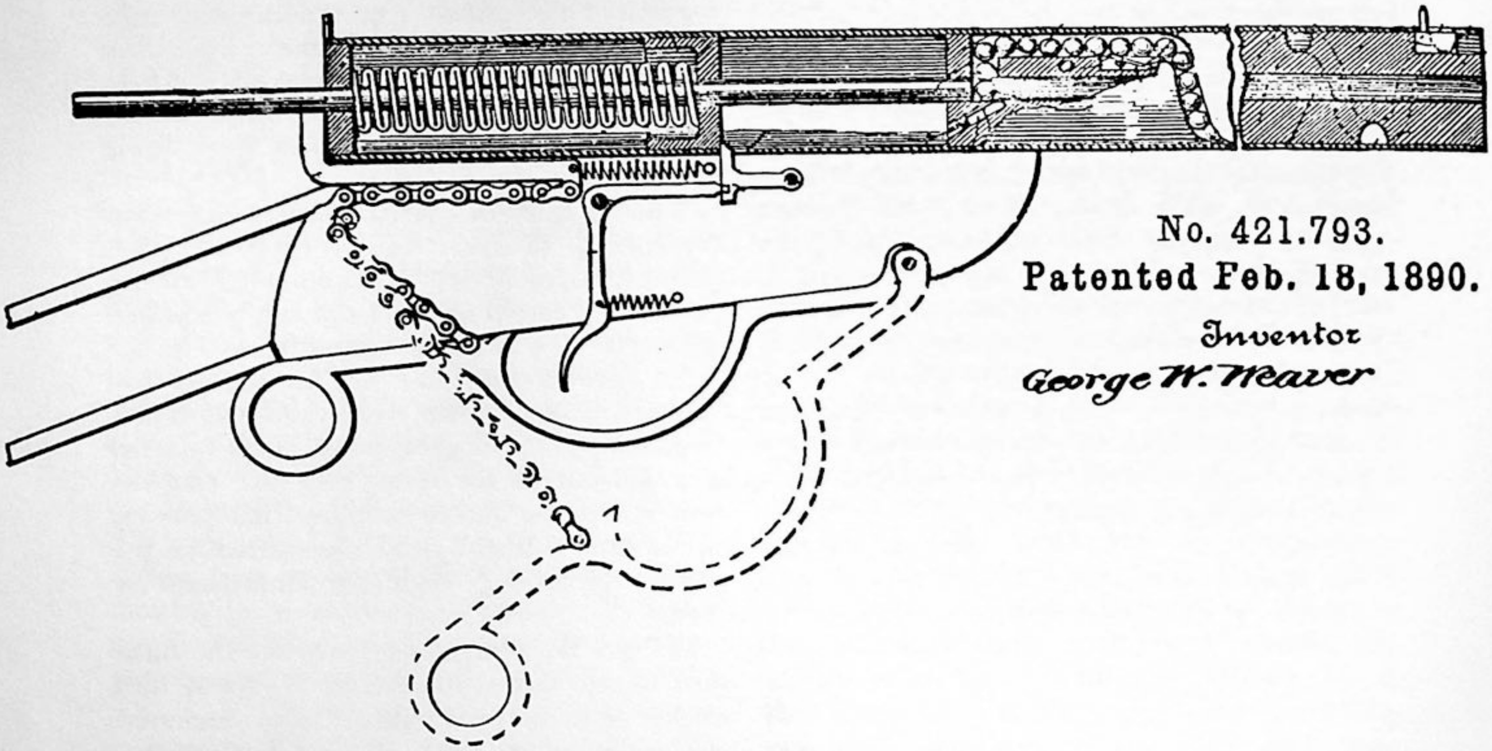
The designer of the Atlas lever-action was George W. Weaver, also of Ilion, who was granted a patent in February 1890 for his peculiar design in which the piston was pulled back with the aid of a bicycle chain. In the Atlas production model, the lever was changed to pull down from the front rather than rear of the trigger guard. This unusual arrangement of the lever, plus the ring design allows the author to guess that perhaps the DANDY B.B gun which appeared in the Sears 1897 catalog was also manufactured by Atlas.

Gilbert W. Warren of Ilion was the business figure in the Atlas Gun Company and owner of its patents. When Daisy purchased the company in 1906, Warren secured his own patent for a variation in the Atlas break-open which he assigned to Daisy. The drawings in the Warren patent of September 1906 and the earlier Gunn patent of 1895 are so similar that they could have been tracings of each other. After Daisy purchased Atlas Gun Company, the Atlas and Victor B.B guns were withdrawn from the market.

Atlas Chronology

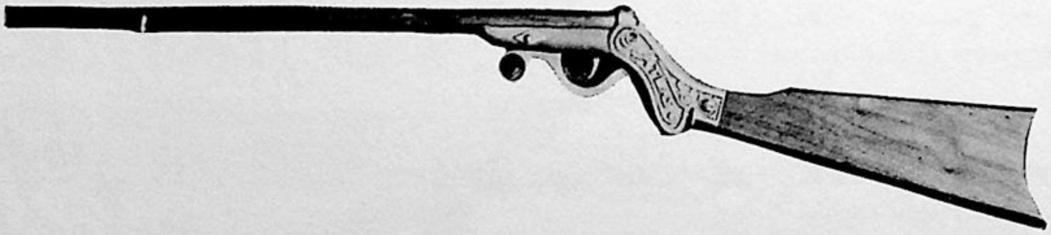
1890 Atlas: Break-open repeater. Brass tube barrel, sheet metal frame and grip frame, wire trigger guard; nickel plated. Walnut stock with deep crescent butt. Stock stamped in circle: Atlas Gun Company, Pat. Mar. 9, 1886 USE B.B SHOT. Ilion, New York. Patent applied for. (Rare) $80





1899 Victor: Break-open repeater. As above with following exceptions. Sheet metal step barrel. Stock stamp: VICTOR. This is the last Atlas break-open, manufactured to 1906. (Very scarce) $65

1900 Atlas: Lever-action repeater. Sheet metal barrel, cast iron lever, frame and grip frame; nickel plated. Walnut stock with crescent butt. Grip frame marked: ATLAS. Manufactured to 1903. (Rare) $60



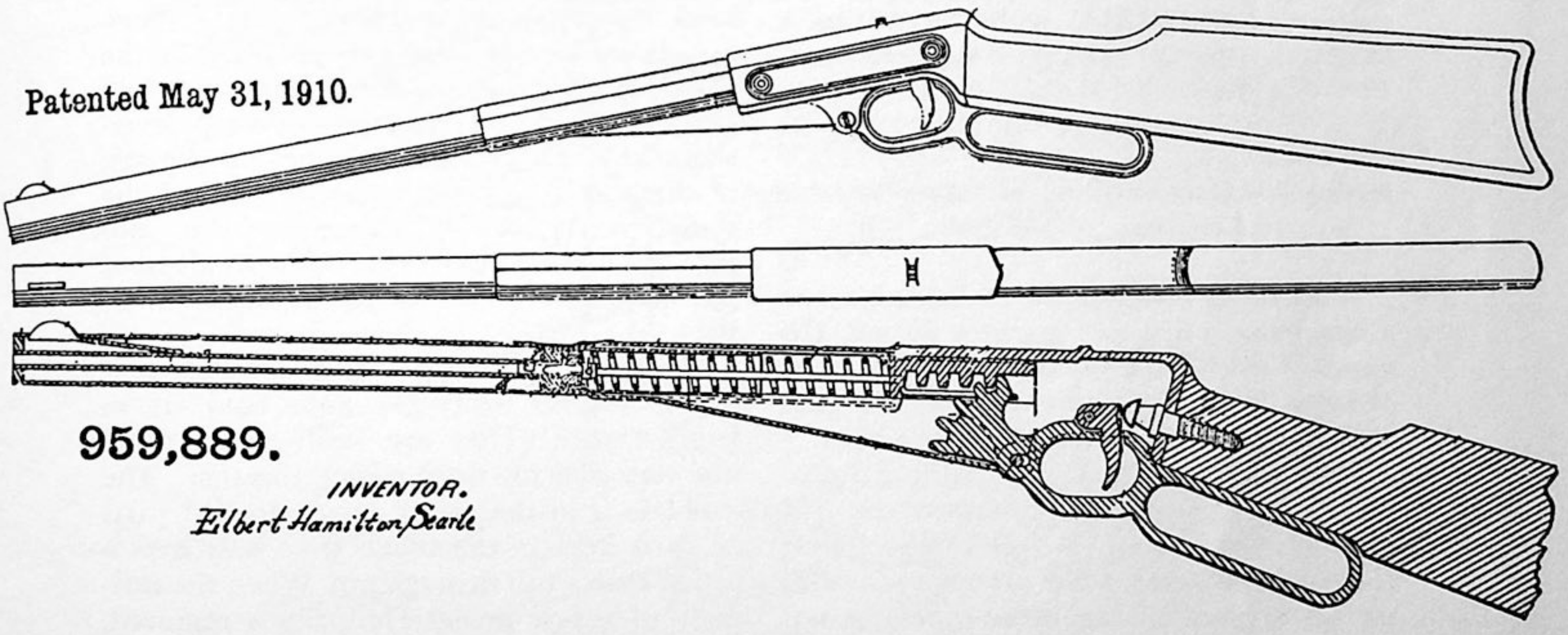
1903 Atlas: Lever-action repeater. As above with following exceptions: less ornate frame casting with ATLAS in script. Manufactured to 1906. (Very scarce) $55

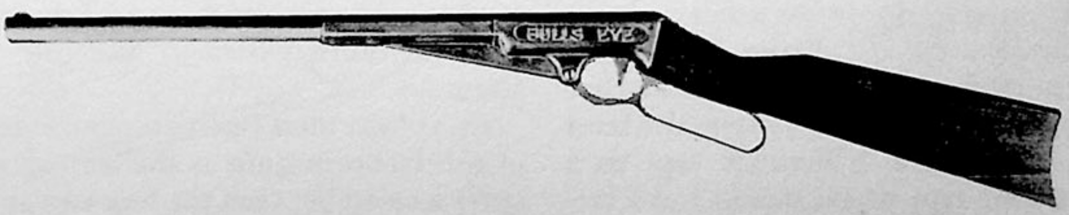
Section 2: Bulls Eye Air Rifle/Chicago

The Bulls Eye Air Rifle Company, Chicago, manufactured from 1907 to an undetermined date both a lever-action repeater and break-open single shot B.B gun, invented and designed by E. H. Searle.

Searle's patent, number 959,889, covered the design of the lever-action BULLS EYE as it was then being manufactured. The gun was made of nickel plated sheet metal with a cast iron lever and walnut stock. The unique patentable feature was a geared lever system similar to that used on Colt 1860 Army revolver rammers. As the lever was forced downward, the gears ratcheted a slide attached to the piston rearward, depressing the spring and cocking the gun. The repeating mechanism used the barrel housing as a reservoir and gravity fed one B.B at a time into the rear of the shot tube. They were held in place by a split sleeve which was expanded as a pin on the plunger head entered the shot tube when the gun was fired.

The break-open Bulls Eye was a more traditional design which cocked by the leverage applied to the stock. Both the lever-action and the break-open had slab sided walnut stocks and half round, half octagon barrels. The Bulls Eye guns are the only ones the author has ever seen in which the stocks were fitted over rather than into the grip frames. The lever-action is marked BULLS EYE in large letters on the sides of the receiver; the break-open is marked on the barrel top. Both guns can be considered (Very scarce) $50





Section 3: Columbia/Adams & Westlake Company, Chicago

The relationship of the Adams & Westlake Company of Chicago to B.B gun manufacture and distribution remains a puzzle.

From time to time the company has been credited with producing B.B guns that they clearly did not manufacture. In the case of the COLUMBIA, however, we cannot presently attribute the gun to any other company. From 1857, the company had also used the trade name Adlake and was known for its full line of coal oil lanterns for home and railroad use. If the company had the capability to make such lanterns, they could also have made B.B guns.

The Columbia is a simple push-barrel single shot B.B gun constructed of sheet metal and wood. The barrel assembly is nickel plated with the breech cap, tang and trigger guard blued. The one piece stock is pine and marked: COLUMBIA, with the Adams & Westlake name and address in a circular logo. Probable dates of manufacture are 1905 to 1915. (Very scarce) $45

Section 4: Columbia/Heilprin's Manufacturing Company, Philadelphia

William A. Heilprin of Philadelphia was a businessman first and inventor second. His association with the manufacture of a series of large, impressive and expensive B.B guns from 1893 to 1918 is not altogether clear.

In November 1892, Elmer Bailey of Sinnamahoning, Pennsylvania, patented the first lever-action repeating B.B gun. The frame, receiver, and lever were of cast iron with the barrel made of sheet metal tubing, as was common with B.B guns of that period. What was different about Bailey's design was its sheer bulk on the one hand and the simplicity of its mechanics on the other.

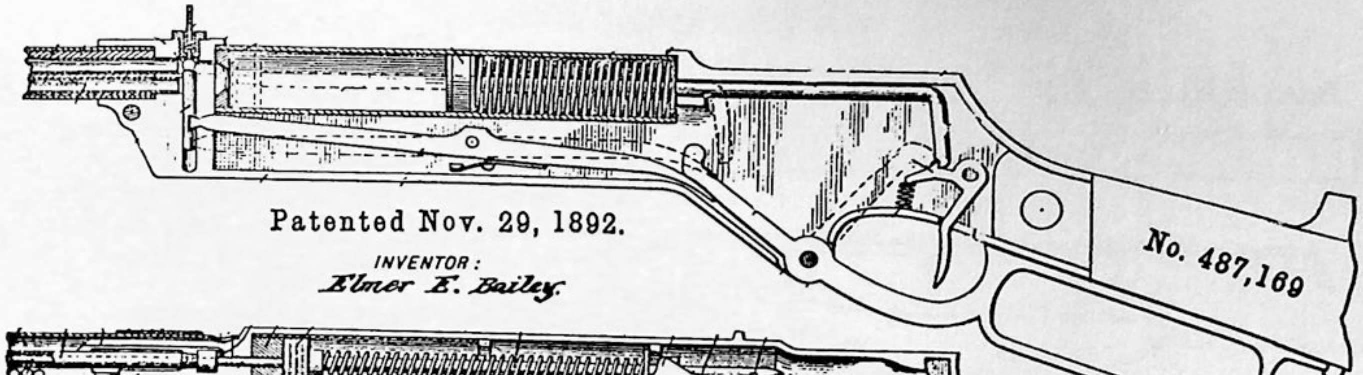
As manufactured, the Bailey lever-action was not so sleek and clean as it could have been. Appearing first as the JUNIOR, the lever was changed from a Winchester type to a single arm ring type which smacked of European influences. The cast iron frame, receiver, fore-end and grip frame more than doubled the gun's weight over competing B.B guns. Although the Junior was not quite what it could have been in the hands of another designer, what it was still impressed a good many boys to part with twice the money of another B.B gun in order to own a Heilprin Junior.

In May 1898, Bailey, who had teamed up with T. A. Monk, secured a patent on an improved version of the Junior. And improved it was. A toggle link was added to the lever giving it a good purchase on the plunger rod, an unusual sear which pulled downward out of the slot in the plunger rod to release it, and a reliable gravity fed repeating system. It was a functional design and was manufactured unchanged for at least 10 years. Used in the manufacture of three models: the 1898, the 99, and the 1900.

Circa 1908, William Heilprin who had been manufacturing the Bailey patent lever-actions up to that time got involved in the design of the guns. His first patent issued in December 1909 was for an improved lever-action that incorporated a safety on the top of the grip frame. He apparently liked the thumb safety, for he incorporated it into both his later model break-open single shot and improved model of the lever-action in 1914.

Heilprin's first design had a problem similar to a great many cap guns boys are so familiar with. They are easily taken apart but very difficult to put back together. The problem is in the use of spring loaded parts or parts held in the frame with only a post rather than a full through pin. When the sideplate of a first model Heilprin is removed, the works are very apt to spring out from their places and be very difficult to hold in place again when replacing the sideplate. The 1914 patent provided for more through bolts and was much easier to assemble and disassemble.

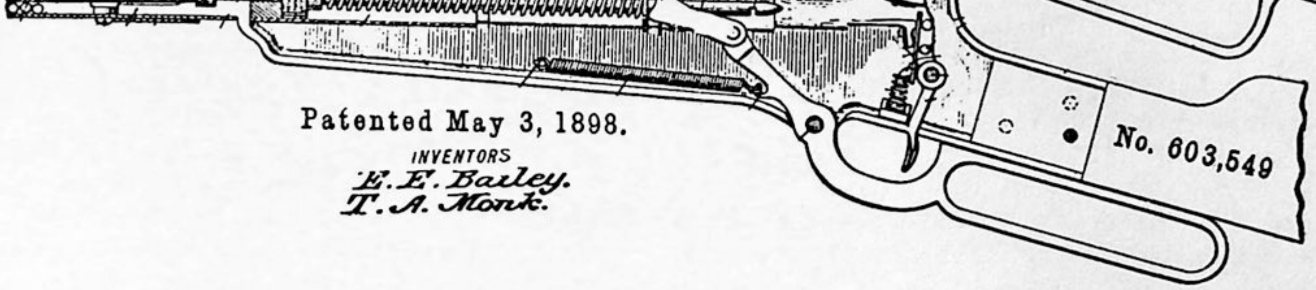
One of the most easily recognizable features of the Heilprin guns is the sliding magazine cover located between the fore-end and barrel.



No. 487,169

Patented Nov. 29, 1892.

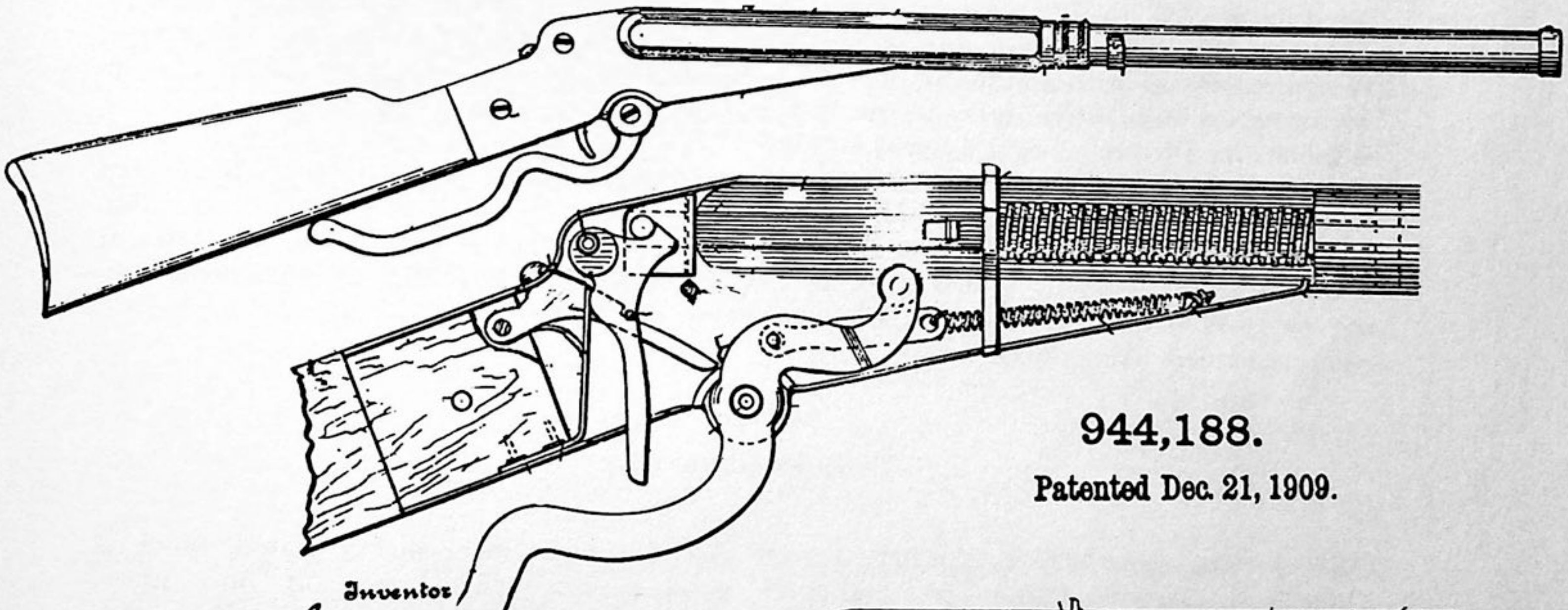
INVENTOR:
Elmer E. Bailey.



No. 603,549

Patented May 3, 1898.

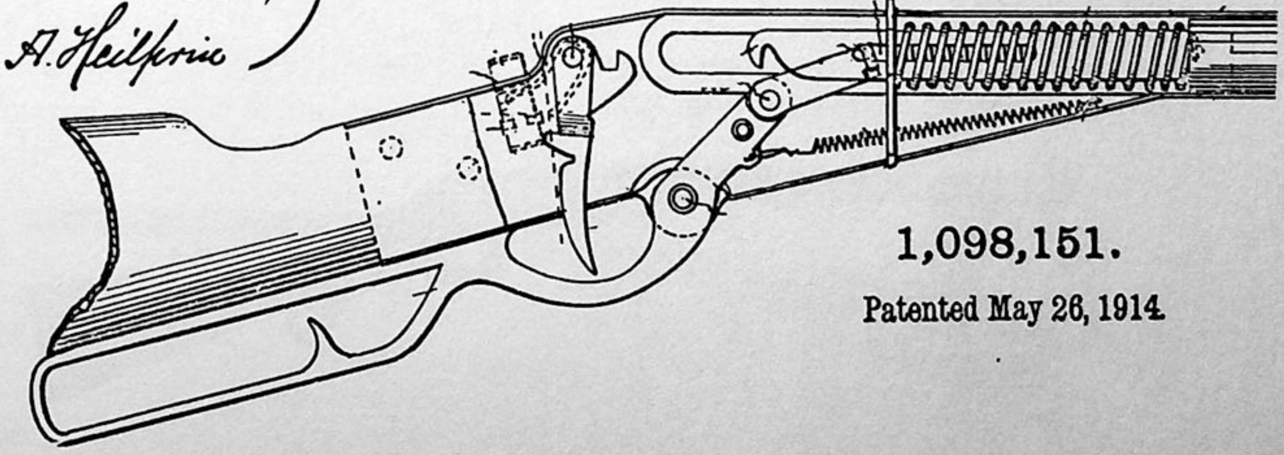
INVENTORS
E. E. Bailey.
T. A. Monk.



944,188.

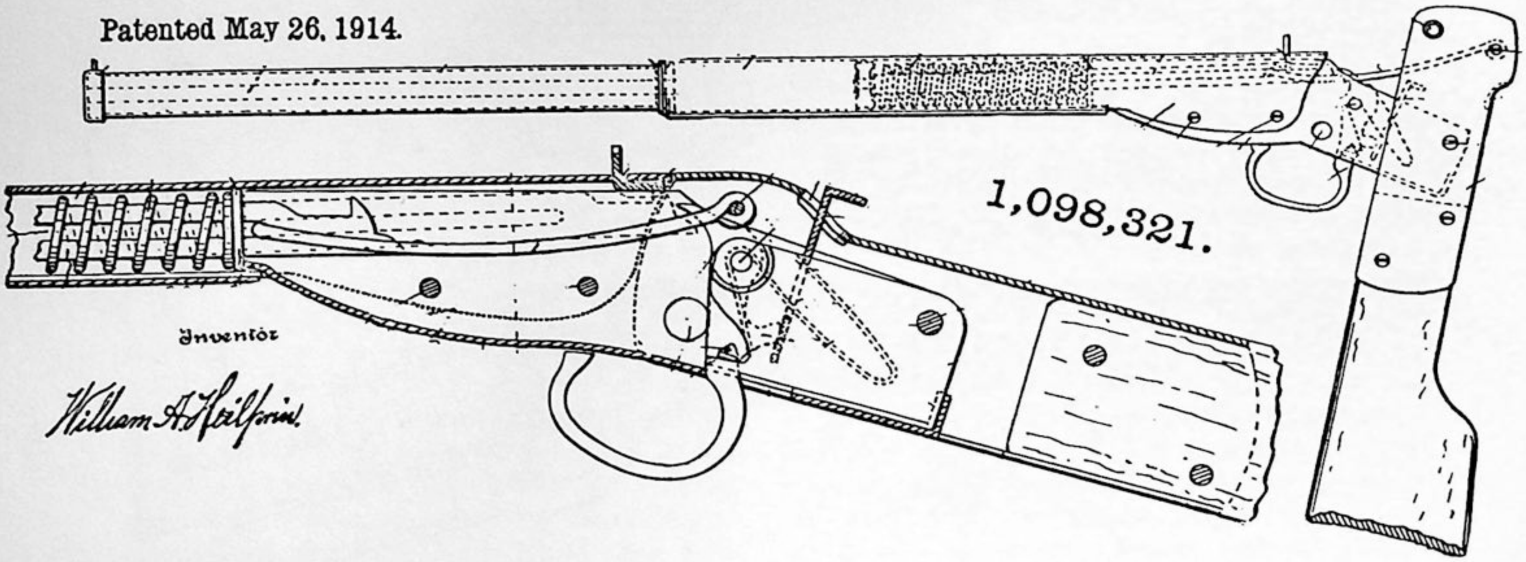
Patented Dec. 21, 1909.

Inventor
William A. Heilprin



1,098,151.

Patented May 26, 1914.



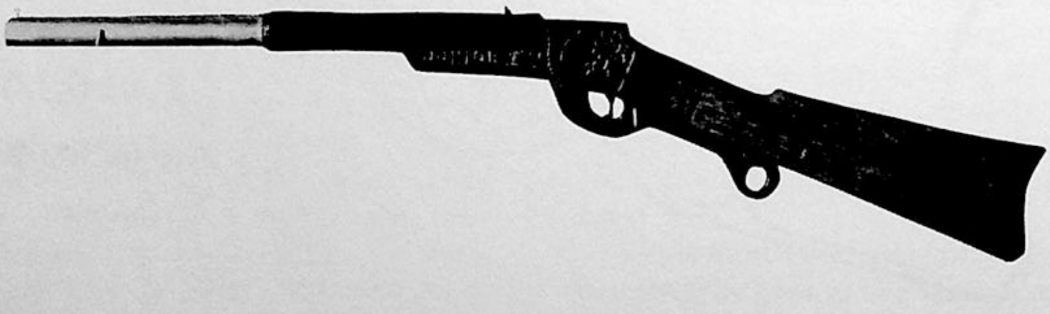
It was retained in all Heilprin guns manufactured from 1898 to 1920. Fortunate is the collector who chances upon one of the big Heilprin guns in good condition.

Listings of William Heilprin in the Philadelphia City Directory begin as early as 1908 when he was associated with a partner, Levy, in either the sale or manufacture of cameras at 1429 N. 21st Street. In 1909 the Heilprin Manufacturing Company is first listed making air rifles at the same address. The company remained there until 1916 when it moved to the Northeast corner of 19th & Westmoreland Streets. The specific mention of air rifle manufacturing does not appear after 1919. For the next three years the company is listed as metal stamping.

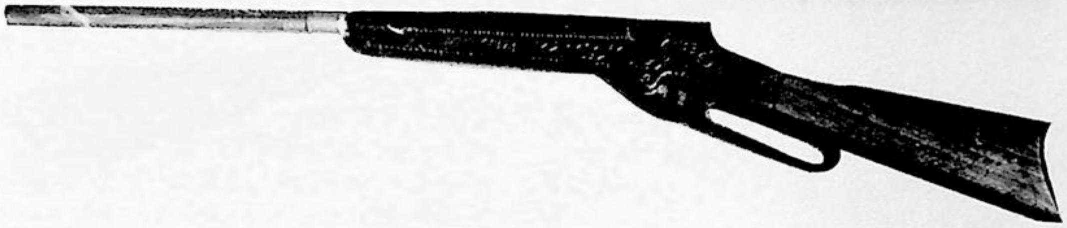
William Heilprin moved again in 1922, perhaps forming a new company. He is listed as the head of the Arrow Machinery Company, first at 234 N. 3rd Street, and later at 124 N. 3rd Street. After 1930 no other listings for William Heilprin appear.

Heilprin Chronology

1893 Junior: Lever-action repeater. Bailey patent with cast iron frame, lever and fore-end, Japanned black. Peculiar single arm lever with ring. Ornate floral design with squirrel on frame; checkered grip frame. Barrel tubular steel nickel plated. Stock is good walnut with cast iron butt plate. Marked: JUNIOR on both sides of fore-end. Manufactured 1893 to 1898. (Rare) $100

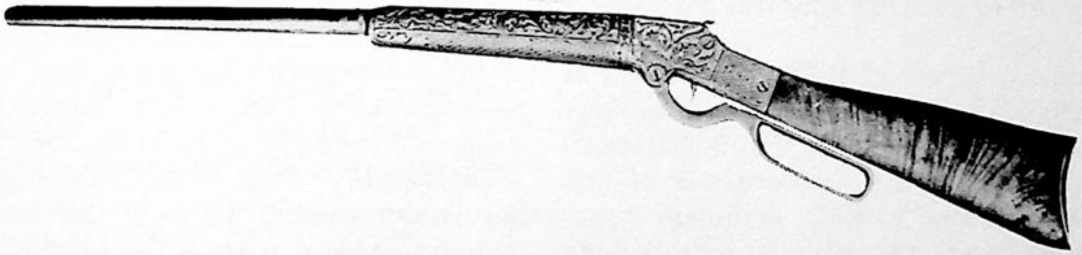


1898 "1898": Lever-action repeater. Bailey and Monk patent with an improved B.B feed mechanism having sliding magazine cover characteristic of Heilprin guns. Ornate floral design with buffalo on frame; checkered grip frame. All cast iron parts Japanned black. Barrel nickel plated. This gun has a loop lever of more traditional design. Good quality walnut stock with cast iron butt plate. Marked: 1898 on fore-end. Appears to have been manufactured one year only. (Rare) $90

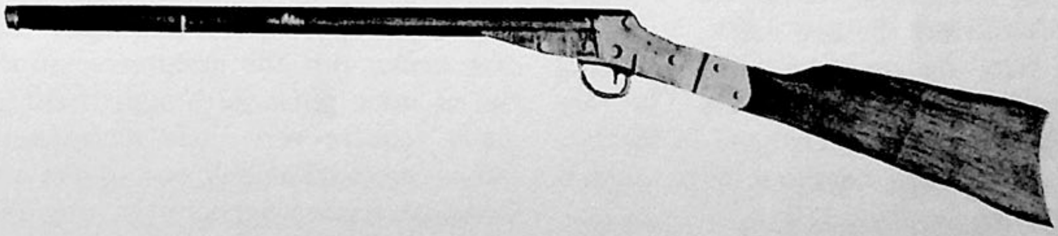


1899 Model 99: Lever-action repeater. Same general design as above. Fore-end is slimmed somewhat, animal design is a squirrel and lever is a single arm type with a small loop at the end. Marked: MODEL 99 on fore-end. (Rare) $90

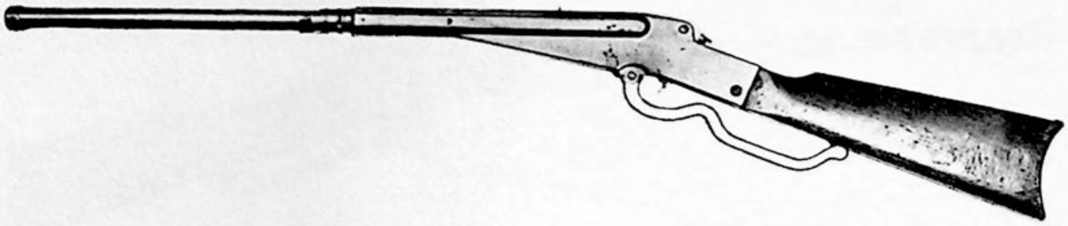
1900 1900 Model: Lever-action repeater. This is the first of the all nickel plated Heilprin guns. Traditional lever loop. Frame is slightly more rounded at the breech than previous models, but retains ornate cast iron designs, incorporating fox, hound and hawks' heads. This gun appears to have been manufactured longer than any of the earlier models. (Very scarce) $80



1910 Columbian Model L: Break-open repeater. First of the true Heilprin designs. All sheet metal, nickel plated. Good quality walnut stock with metal butt plate. Retains the sliding magazine cover of the earlier Bailey and Monk designs: Incorporates a thumb safety which was depressed to put the gun on safe and pulled up to release. Length of manufacture unknown, but probably 1908 to 1920. (Very scarce) $60



1910 Columbian Model M: Lever-action repeater. This is the first Heilprin lever design with all sheet metal construction. Single arm lever. Incorporates thumb safety at the rear of the breech. Nice walnut stock with metal butt plate. Frame marked: COLUMBIAN MODEL M, 1000 SHOT and floral scroll stampings. All nickel plated. Manufactured from 1910 to 1914. (Very scarce) $60



1914 Columbian Model M: 1000 shot lever-action repeater. Improvement of earlier Heilprin design incorporating simplifications for assembly. Double loop lever. Frame does not have scroll designs. All sheet metal, nickel plated. Walnut stock with iron butt plate. Manufactured to 1920. (Scarce) $55

Section 5: Crosman/Crosman Arms Company, Fairport, New York

Crosman Arms Company, Incorporated, began manufacture of a spring air B.B gun in 1961. Introduced as the Model V-350, the gun was basically of the Quackenbush push-barrel type.

A company survey of V-350 gun owners in 1965 asking which among many popular rifles they would most like to see a B.B gun modeled after led to the introduction of the Model M1 Carbine in 1967. Although it was still a push barrel, the military style carbine has several unique features including a magazine type reservoir. The M1 has been a good seller for Crosman.

The V-350 was modified in 1969 to improve sights, trigger, feed control and stocks. The new model was redesignated the 3500. Among these, the Monte Carlo stock is the most easily recognized distinction between the older V-350 and the new 3500.

There were no major variations among V-350 models from 1961 to 1970. The contour of the fore-end was changed in the late 60s from an undercut nose to a simple rounding at the end.

Production of the V-350 was discontinued in 1970 and factory inventory was sold out by fall of that year. All except minor parts of the 3500 will interchange, and repairs and replacements should not be a problem for some time to come.

Basic principles of the V-350 design were patented in October 1956, #3,212,490. None of the V-350 models were stamped with this patent, however; all V-350s continued to be stamped Patents Pending from 1961 to 1970.

Disassembly of the V-350, 3500 and M1 are not recommended. One of the most commonly misplaced parts is the barrel lock ball and spring. These have a tendency to pop out of their stock when the gun is taken apart. They are neither difficult nor expensive to replace, but the gun will not function without them. Both front and rear sights are easy to lose; both are screwed into the barrel.

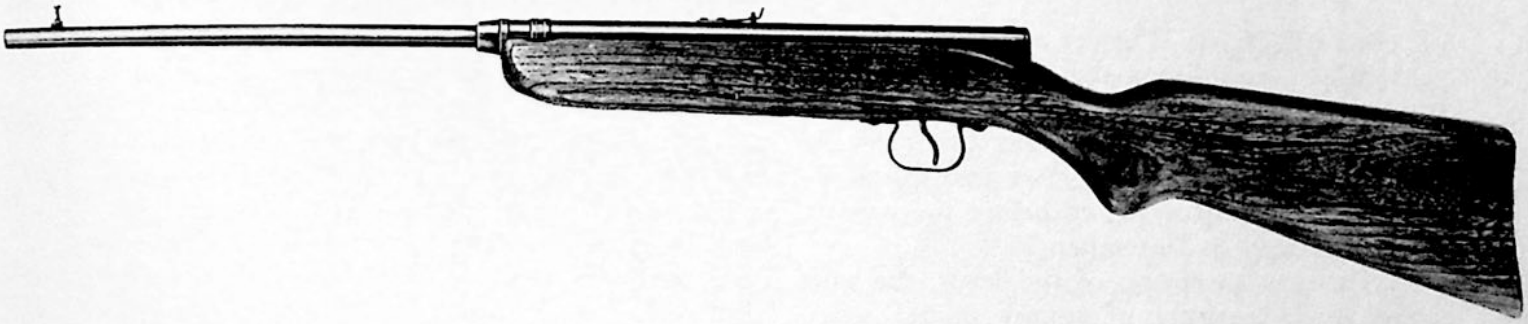
Crosman spring air B.B guns are well made and smoothly functioning toys. The Crosman optional scope sight is a quality instrument that brings out the greatest accuracy potential of these guns. Although these guns normally require very little maintenance, they can be serviced at any one of the authorized Crosman service agencies in the nationwide

Crosman network.

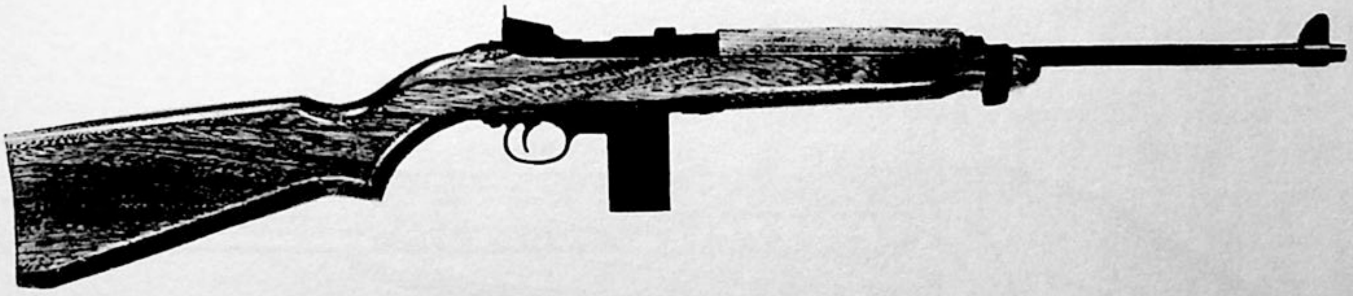
Crosman probably does not think of itself as a toy gun manufacturer. Since its beginning in 1925, the company has been a maker of pneumatic and gas air rifles. Today it is the world's largest manufacturer of compressed air and CO_2 guns. Crosman did not enter the spring air B.B gun field until 1961.

Crosman Chronology

1961 V-350: Push-barrel repeater. First spring air B.B gun manufactured by Crosman, introduced in 1961, discontinued in 1970. Twenty-two B.Bs are contained in magazine and fed by gravity to shot tube. Only minor modifications to sights and stock contours during period of manufacture. (Common) Total production 263,546 units. $10



1967 MI Carbine: Military styled modification of the V-350. Clip/magazine holds 270 spare B.Bs that do not feed into gun. Loading is accomplished through loading port as in V-350 model. Presently manufactured.



1969 3500: Modification of the V-350, replacing it in 1970. Monte Carlo styled stock, hooded front sight, step elevated rear sight, redesigned trigger and feed control. Most V-350 parts interchange. Presently manufactured.

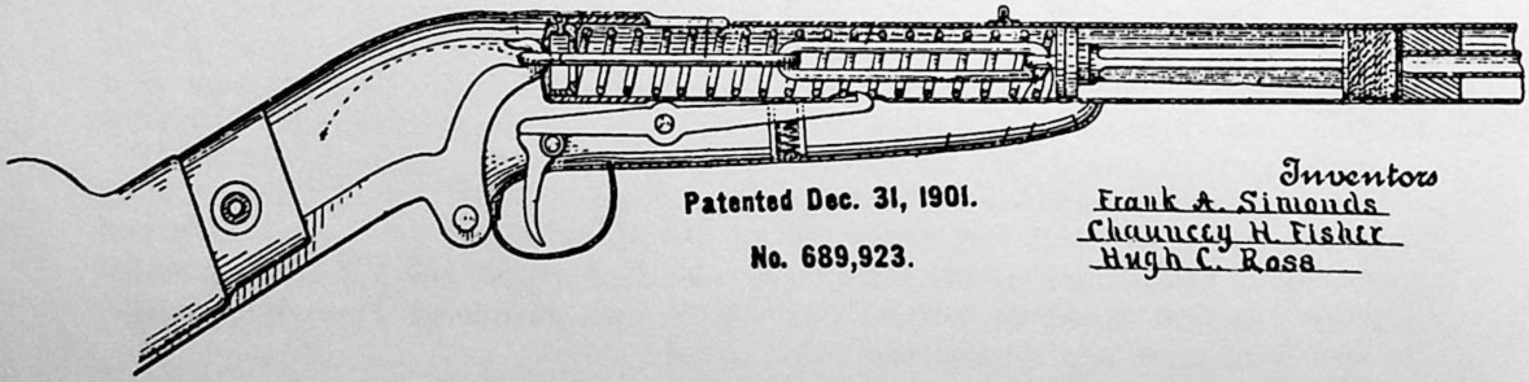
Section 6: Cycloid, Cyclone, New Rapid/Rapid Rifle Company Limited, Grand Rapids, Michigan

In 1898, A. K. Wheeler of Grand Rapids, Michigan, established the Rapid Rifle Company, Limited, for the manufacture of a lever-action B.B gun invented by Frank A. Simonds, Chauncey H. Fisher and Hugh C. Ross. The company failed before the patents were granted in December 1901.

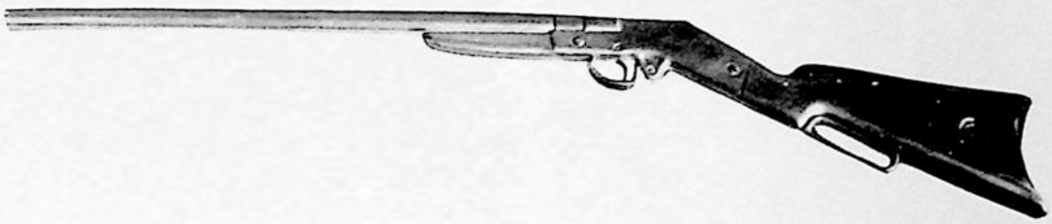
With the exception of the lever, the gun was made entirely of nickel plated sheet metal. The net effect of that much glitter is almost overwhelming.

Apparently Wheeler had some difficulty in deciding what to call the strange B.B gun he was manufacturing. It is listed in various sources as the CYCLOID, CYCLONE or the NEW RAPID. By any name it was unusual. It had the longest lever of any gun made, and next to the huge HEILPRIN was the heaviest.

Strange too, was the mechanical design of the spring and plunger. The spring was not wrapped around the plunger rod as in most B.B guns. Instead, the short plunger stem was seated ahead of the spring and was drawn back by a hook on the lever. This may have been necessary because the fulcrum was behind rather than ahead of the trigger guard and in effect was a simple variation of the common break-open. For whatever reason, it was a clumsy design and probably did not work very effectively.



The cost of producing an all sheet metal gun of such design must have been considerably greater than contemporary King, Daisy, and Globe. It was higher priced at 95 cents than most of the competition and at 2½ pounds, cost 59 cents extra if mailed from Sears. High cost coupled with the fact that it was in competition with at least a half dozen better established brands probably made it a poor seller. It is a very difficult specimen to locate. (Rare) $65



Section 7: Dewey, Crescent and Oziehs/Crescent Gun Company, Saginaw, Michigan

The Crescent Gun Company of Saginaw, Michigan, was a companion company of the A. F. Bartlett Company and had the same officers. Among them was Alexander Lemke, who also operated the Crescent Salt Company at that time.

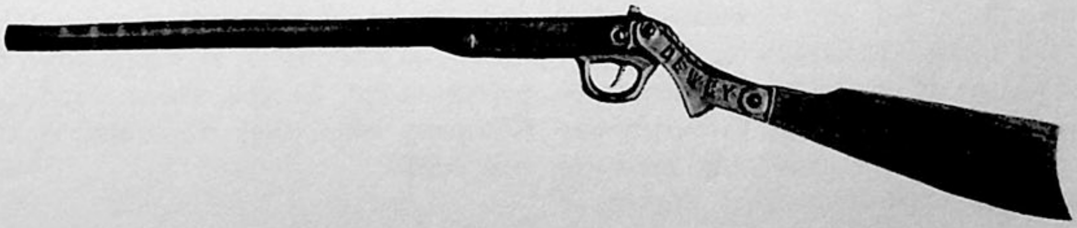
Saginaw city directories list the B.B gun company from 1899 to 1904. The A. F. Bartlett Company is listed as late as 1908, at which time Alexander Lemke had become president.

B.B guns manufactured and/or distributed by Crescent Gun were all break-opens. The last model was a repeater. The designer of the Crescent guns is not known. There is a possibility that the guns were manufactured under foreign patents, although that seems unlikely. What the author considers to be more likely is that the guns were not manufactured in Saginaw, but in Japan and imported by Crescent Gun. The Japanese-made OZIEHS, dated 1910, in the Daisy International Air Gun Museum, is so exact a duplicate of the Crescent DEWEY that it appears to be made from the same tools.

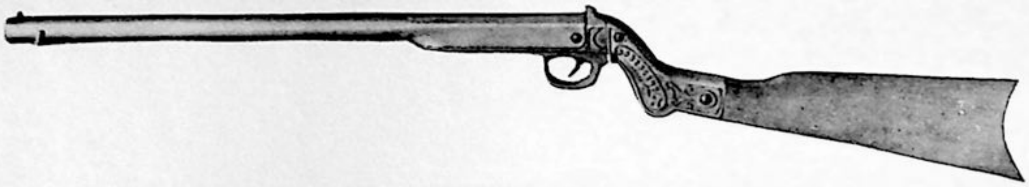
Variations among specimens marked with the Crescent Gun Company are in decoration only.

Crescent Gun Chronology

1899 Dewey: Break-open single shot. Sheet metal barrel, cast iron frame and grip frame; nickel plated. Blond finished walnut stock with crescent butt. Grip frame marked: DEWEY. Stock stamped in crescent logo: The Crescent Gun Company, Saginaw, Michigan, U.S.A. (Rare) $80

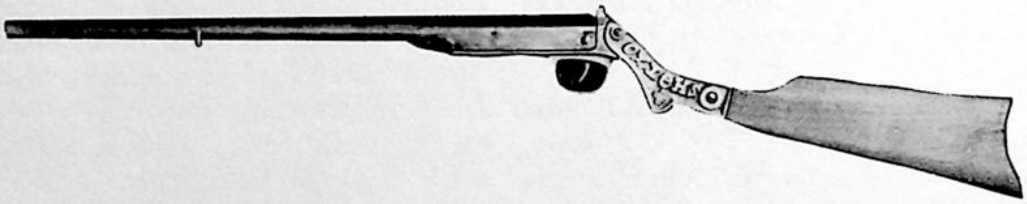


1904 Crescent: Break-open, single shot. As above with following exceptions: grip frame marked CRESCENT. (Very scarce) $70



1905 Crescent: Break-open, repeater. This has a loading port on the muzzle cap next to the shot tube muzzle. On the underside of the barrel housing is a screw head which acts as a lever for opening and closing the feeder tube to the shot magazine and allows a B.B to enter the shot tube. The gun is otherwise as described above. This is the list model Crescent. (Rare) $65

1910 Oziehs: Break-open, single shot. Attributed to unknown Japanese manufacturer. Identical to above Crescents except for grip frame markings. (Rare) $45



Section 8: Globe/Dubuar, Northville, Michigan

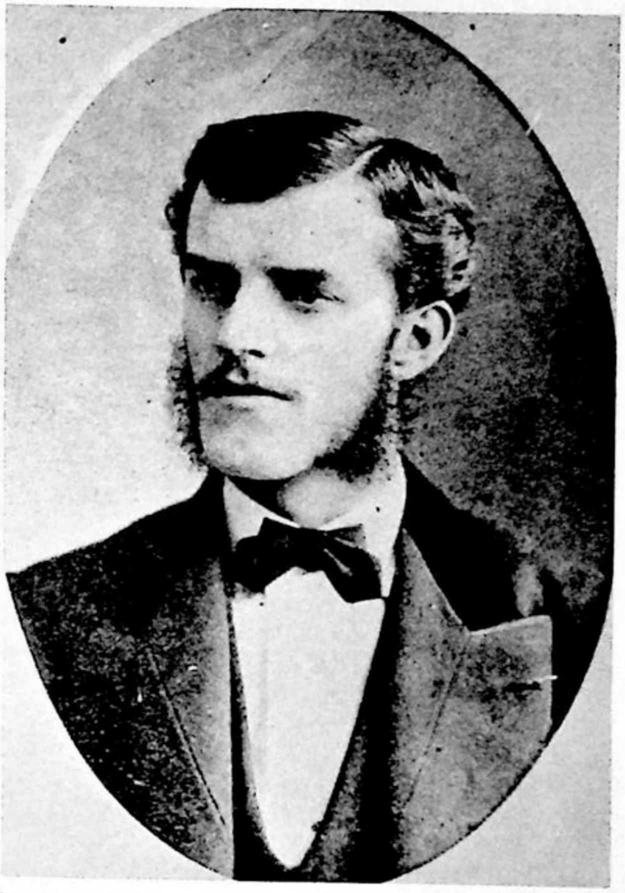
The designer of the Dubuar B.B guns was Merritt F. Stanley, a former employee of the Markham Air Rifle Company. Stanley moved to Northville, Michigan, in 1889 and set up a small machine shop in the second story of the Ely Dowell Manufacturing Company on Plymouth Road.

Stanley was granted a patent for an improved air rifle in 1890 and afterward moved to the J. A. Dubuar Manufacturing Company, where he was set up in a larger machine shop.

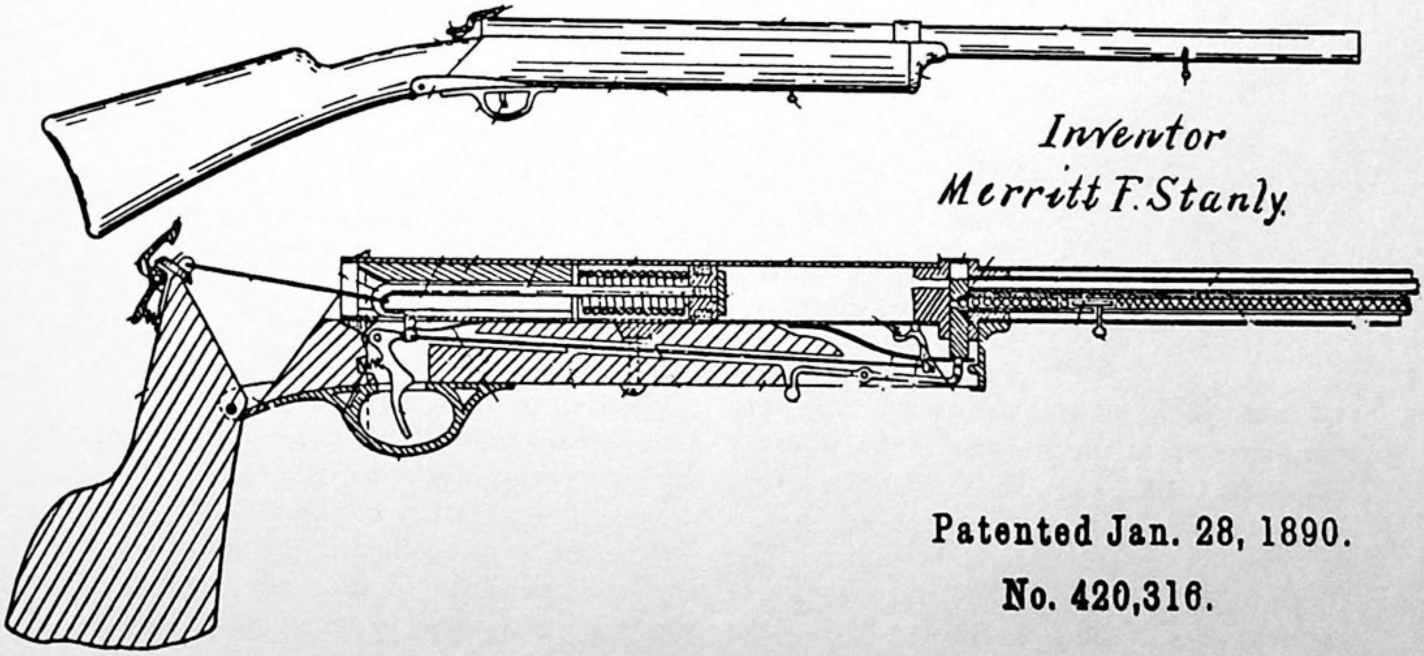
The Dubuar Manufacturing Company was principally involved in producing products from Michigan hardwoods. Best known of the company's products were pulley blocks for use in the New England ship building trade. They also made a variety of other products including wagon bows.

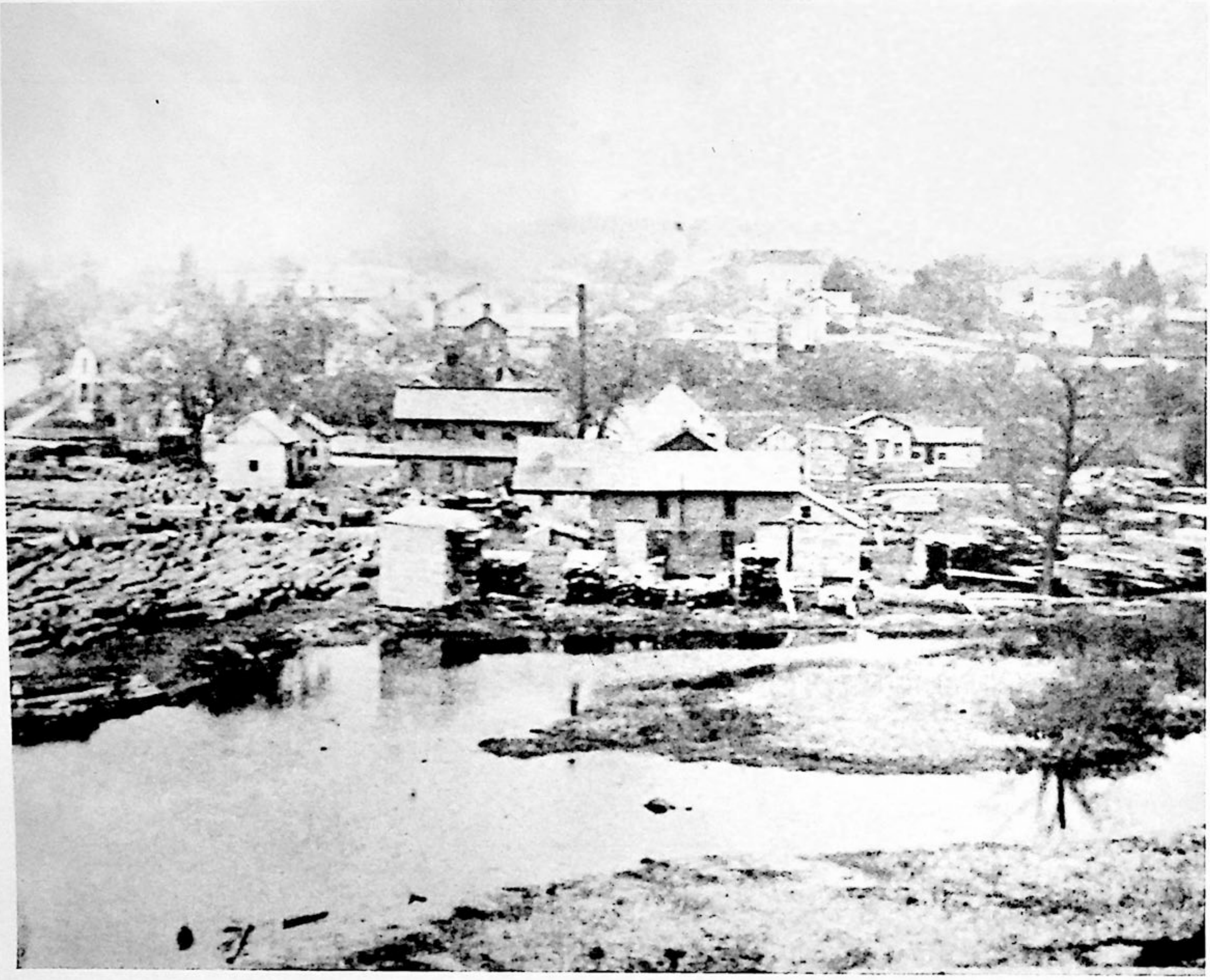
Stanley soon persuaded J. A. Dubuar to begin manufacturing a B.B gun that appeared under the trade name GLOBE. It is not clear when the first guns were produced; probably in early 1890. Stanley was awarded three patents in all, one of them for a lever-action B.B gun that was not manufactured. Globes were not made after 1908, at which time Stanley's patents went to the Daisy Manufacturing Company when they purchased the Dubuar B.B works.

Merritt Stanley, inventor of the GLOBE B.B guns.



J. A. Dubuar, manufacturer of Globe Air Rifles, Northville, Michigan.


Inventor
Merritt F. Stanly.
Patented Jan. 28, 1890.
No. 420,316.



James A. DuBuar Manufacturing Company, East Main Street, Northville, Michigan about 1900. Site was later purchased by Ford for an automotive plant.

Globe Air Rifles and their variations were manufactured at the Dubuar Manufacturing Company plant. The Globe Manufacturing Company, also of Northville, had nothing to do with either Dubuar or B.B guns. The Globe factory burned in 1899 and some workers went over to the J. A. Dubuar plant. One of these employees, Ray Van Valkenburg, recalls that his new job after the fire was finishing the walnut stocks for the Globe rifles.

Valkenburg further recalls that Stanley was in sole charge of producing the air rifles; Mr. Dubuar had little to do with them. After workers found a way to squirt water from the guns and accidentally hit Dubuar with a stream of water, the company owner no doubt liked B.B guns even less.

Judging from the specimens available, the Globes were produced in considerable variation. Principal changes occurred in the design of both all-metal and all-wood stocks, single shots and repeaters, break-opens and slide-actions, and the degree of decoration. One of the more scarce and interesting variations appears to be the Buster Brown Model, which in 1899 was a premium for the Brown Shoe Company of St. Louis.

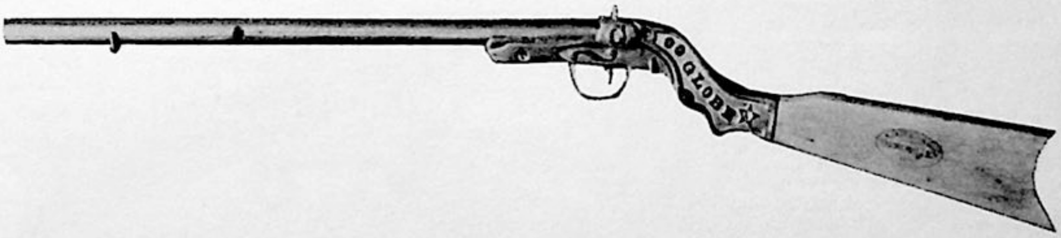
The following chronology is probably not complete. Collectors will be especially interested in a note contained in a brochure dated 1892, "NORTHVILLE—The Ideal Suburban Village." On page 9 is a reference to the Dubuar Manufacturing Company which says, "The Manufacture of the Globe, General Custer Repeater, and Michigan Air Rifles, has become quite a feature in their business." The author has yet to examine either of the later two models and suspects them to be quite rare.

Globe Chronology

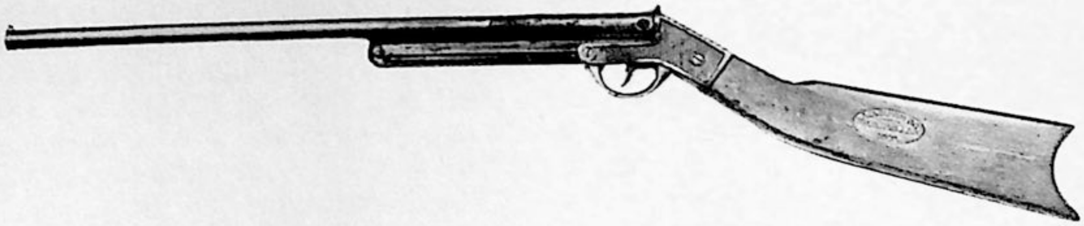
1890 Globe: Single shot break-open. Nickel plated cast iron frame and stock with diamond lattice pattern. Brass tube barrel. Globe design at hinge of grip frame and stock. This was probably the first model GLOBE produced by Dubuar. (Rare) $90

1892 Globe: Single shot break-open. Cast iron frame, brass tube barrel. This is a simplified version of the 1890 design with a smaller frame and a wood stock. Peep rear sight, post front. Metal portion of stock marked: GLOBE, pats. Jan. 28, 1890 (on both sides). .180 caliber. Nickel plated. (Rare) $85

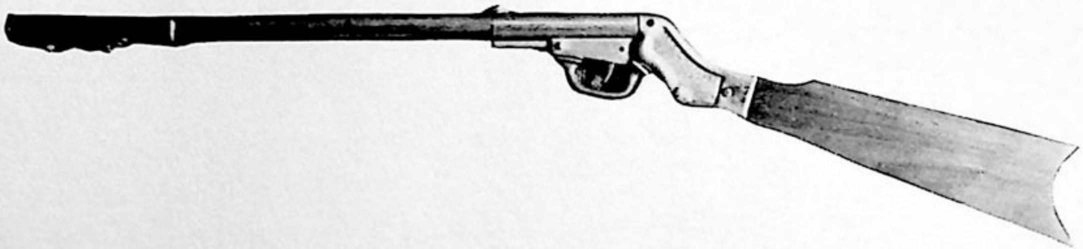
1894 Globe: Break-action single shot. More ornate pattern of the 1890 Globe. Cast iron frame and grip frame, sheet metal barrel with external patch full length. Nickel plated. Pine stock with J. A. Dubuar and address in oval. Grip frame marked GLOBE, frame marked with large G. (Very scarce) $80



1897 Globe Special: Single shot, slide-action. Cast iron frame, sheet metal plunger housing, brass tube barrel. Nickel plated. Walnut stock with severe drop and deep crescent butt. Mechanically similar to the Quackenbush: barrel slides back to cock plunger and is then drawn forward for firing. Plunger housing marked: GLOBE SPECIAL. Stock stamped with J. A. Dubuar and address, in oval. Checkered pattern grip frame. (Very scarce) $80

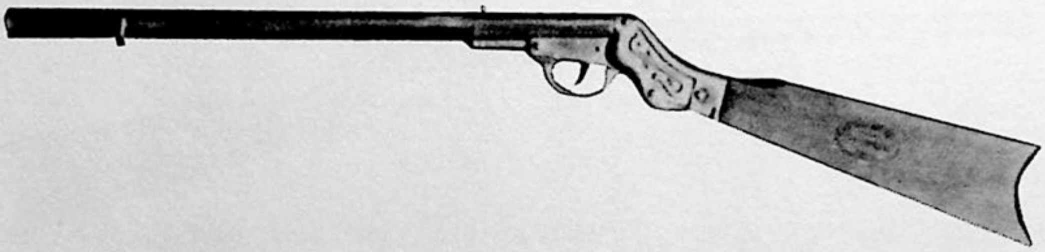


1900 Warrior: Single shot break-open. First of the sheet metal Globes. Plain design with markings stamped on sides of grip frame. Unusual sheet metal rear sight looks like a derby with a crease in it. No stock stampings. Has unusual attachment under barrel at muzzle end, the purpose of which is not known. May have been for sling or bayonet. (Very scarce) $60



1901 Globe Special: Single shot, break-open. Improved model of the above with embossed designs on sides. J. A. Dubuar stock stamp. This rifle appeared in Sears Roebuck 1901 catalog for 72 cents. (Very scarce) $60

1908 Warrior: Single shot break-open as above, but with unusual lug on underside of barrel near muzzle. May have been bayonet or sling attachment. (Scarce) $50



1908 Buter Brown Model: Basically a 1908 Warrior with some modifications. The peculiar lug under the barrel is replaced by a spring loaded shot cup which was used to facilitate single shot loading. The stock is stamped with the J. A. Dubuar marks in an oval along with the words: BUSTER BROWN SHOES. The Brown Shoe Company has no record of such a premium, but if this is not a premium it's sure an odd name for a gun. (Very scarce) $55

1902 Michigan Air Rifle: (no specimens found) See chapter text.

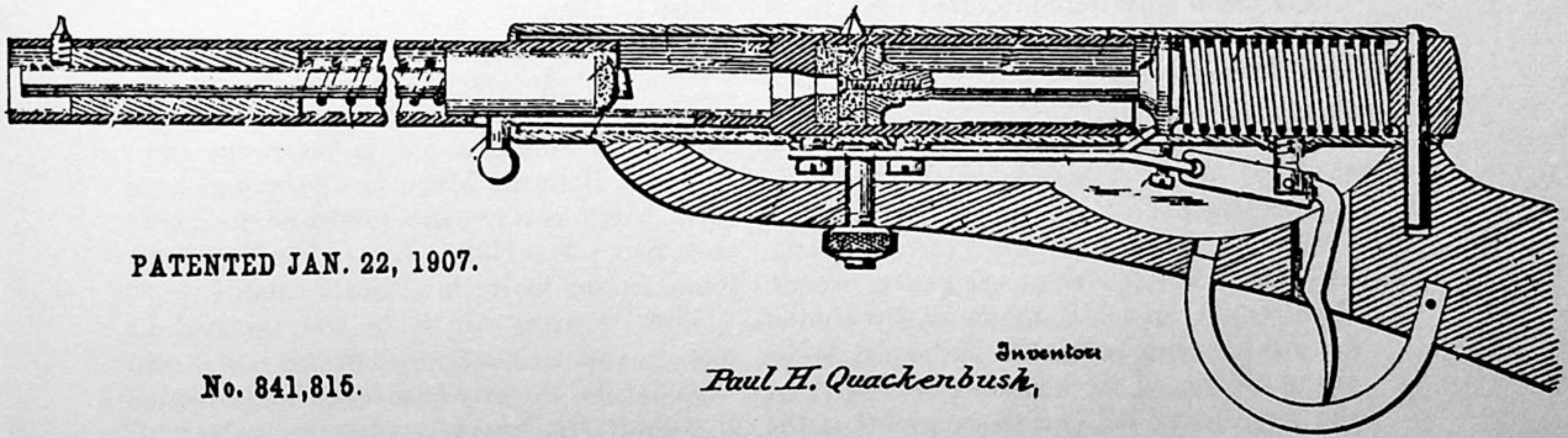
1902 General Custer Model: (no specimens found) See text.

Section 9: Herkimer/Quackenbush, Herkimer, New York

The association of Henry Marcus Quackenbush with air guns is well known. To him must go the credit for manufacturing and design innovations which resulted in the demise of the expensive hand made gallery air guns of the middle 1800s and their replacement by less expensive mass produced air guns. Quackenbush improvements on designs of other inventors in and around Illion, New York, were not intended by him for use in toy gun manufacture, however. He continued to pursue first air guns and later combination powder and air guns long after B.B guns were a well established part of the American shooting scene.

Not until 1903 did Quackenbush enter the spring air B.B gun field and then only for a short time. His manufacturing company was not only busy with the production of guns of his own design, but contract work in metal fabrication for others as well. There was no pressing need to pursue the B.B gun business in competition with companies already established and the 1903 HERKIMER quietly died.

Basically, the gun was a simplified version of the original Number 1 Quackenbush air rifle which had signaled the end of the gallery guns. Although it was an effective bush barrel design, the Herkimer lacked the flashy appeal of its competition and it was never a serious contender in the B.B gun field. (Scarce) $40



PATENTED JAN. 22, 1907.

No. 841,815.

Paul H. Quackenbush, Inventor

Section 10: Magic, Bijou, and Hexagon/Detroit and Plymouth, Michigan

The Plymouth Air Rifle Manufacturing Company set up shop in Daisy and Markham's home town and began manufacturing B.B guns in 1891. Only one model of B.B gun was manufactured, the MAGIC. It was a single shot lever-action of rather unusual design.

The bulk of the gun was cast iron including the one piece frame, grip frame, trigger guard and plunger housing. The barrel was folded sheet metal underneath which was a long lever with a ring grip on the end. The lever was drawn down and rearward and ratcheted the plunger spring back. All metal parts were nickel plated. The gun is marked MAGIC on the grip frame. The crescent butt stock is walnut and slab sided.

The Magic was produced in Plymouth for no more than two years, probably less, before the patents and dies were sold, apparently to George Decker of Detroit. Decker continued the manufacture of the gun as a break-open single shot using the same frame design. The gun as produced by the Decker Manufacturing Company was renamed the BIJOU.

The Bijou guns were produced from about 1895 to 1905. In 1905 the gun was redesigned to make use of fewer castings and more sheet metal. Of all the guns examined by the author, this last model Bijou, which is labeled "B" on the grip frame, is probably the cheapest looking and least substantial.

The first model Bijou has a cast iron skeleton butt stock. It was nickel plated overall. The second model is mechanically similar but has a walnut butt stock. The third model is the redesigned sheet metal model carrying the large letter B. The latter model is the only one carrying the Decker Manufacturing Company address. It is the repeating model with a loading port alongside the shot tube at the muzzle.

Detroit City directories from 1893 to 1900 list first the Decker Electrical & Novelty Manufacturing Company, 142 Brush (1893); Decker Manufacturing Company, 142 Brush (1894); Decker Manufacturing Company Limited (1895); same name, 59–61 Woodbridge (1896–1899). Decker Manufacturing Company does not appear after that time.

However, in the following year, the Decker brothers and F. C. Trowbridge are listed as associated with the Hexagon Air Rifle Company, Limited, 170 Larned West (1900–1901). By 1902, the company had apparently split and Frank C. Trowbridge is listed under lumber at 505 Garfield Avenue, Frederick Decker is listed at 486 Trumbull Avenue, and George S. Decker is listed at 400 14th Avenue. The Hexagon Air Rifle Company Limited is listed after both George and Frederick Decker's addresses.

By 1903, Frederick Decker is listed as removed to New York City; George S. Decker is not listed; Frank Trowbridge is still listed under lumber.

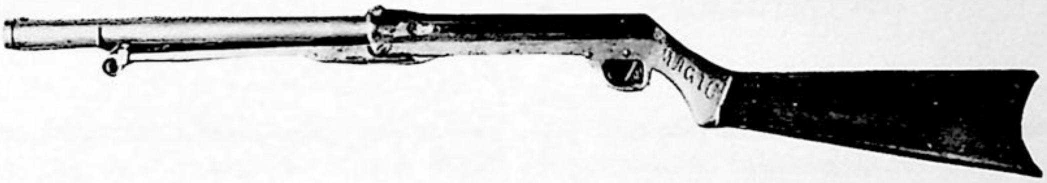
It is safe to assume that neither the Bijou nor the Hexagon air rifle was produced after 1903. Of the three guns involved—the Magic, Bijou, and Hexagon—the Bijou is the most common. Both the Magic and Hexagon were short lived; neither was produced for more than two years. None of the three guns are found in any major mail order catalog.

The Hexagon Air Rifle was unusual in that it had a shot magazine in the butt stock. This did not directly feed into the shot tube. It was rather like the cap box on a Pennsylvania Rifle, simply a reservoir for shot. With a bit of practice one could operate the magazine in such a way that one shot at a time was dispensed; it was then loaded into the muzzle of the gun like any other single shot. It was mechanically similar to other single shots of the period, particularly the Markham Kings. It did have a checkered cast iron grip frame and a straight barrel of sheet metal nickel plated. The stock was walnut with a deep crescent butt. Like most of the Decker guns, it was not very substantially made.

What other novelties were produced by the Decker companies is not known. The description of the shop allows the assumption that it was like most metal shops of the day and produced whatever products were contracted for, in addition to products of its own design.

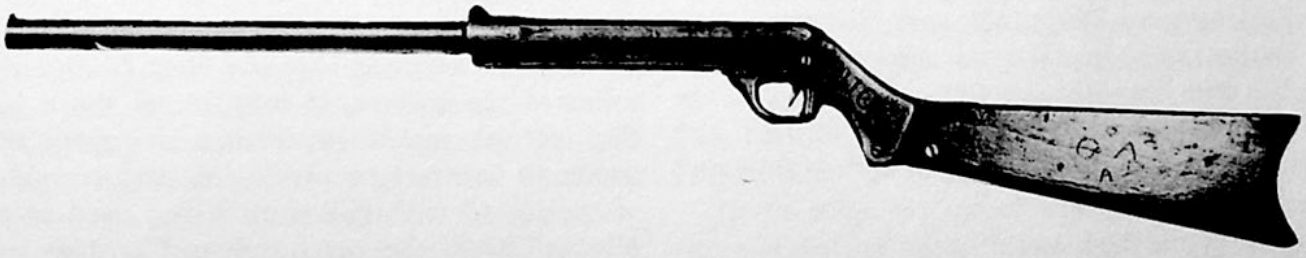
Product Chronology

1891 Magic: Single shot, lever-action. Only model produced by Plymouth Air Rifle Company. Cast iron frame, receiver and lever, tube barrel, nickel plated. Walnut stock with deep crescent butt. Distinctive underbarrel lever with ring on end. Marked: MAGIC on grip frame. (Rare) $90

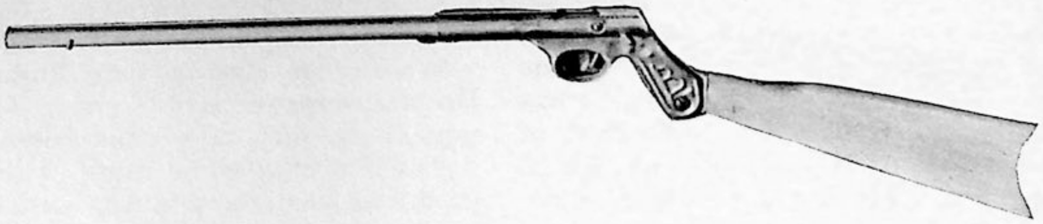


1893 Bijou: Single shot, break-open. First model produced by Decker Manufacturing Company of Detroit. Cast iron design including skeleton stock, brass tube barrel, nickel plated. Marked BIJOU on grip frame. (Rare) $85

1895 Bijou: As above, but with walnut stock. (Rare) $85



1905 B Model 1905: Single shot break-open. Final evolution of MAGIC/BIJOU design in all sheet metal. Nickel plated, wood stock. Grip frame embossed with large B. (Very scarce) $60



1901 Hexagon: Single shot break-open. Distinguished by unusual shot magazine attached to underside of stock and the six sided barrel. All sheet metal, nickel plated. Checkered grip frame, wire trigger guard. Manufactured only one year. (Rare) $75

Section 11: Matchless Air Rifle/Detroit, Michigan

The Matchless Air Rifle was manufactured by the Henry C. Hart Company, Detroit, Michigan. The company is first listed in the Detroit City Directory for 1890 as follows:

> Hart, Henry C. Manufacturing Co., (Henry C. Hart, Pres., James W. Cross, Vice-Pres. & Supt., Albert Ives, Jr., Treas., Charles J. Hayden, Sec.) Manufacturers railway, builders and cabinet hardware, 492-512 Franklin, Tel. 94.

For the years 1891, 1892 and 1893 the listing is the same. In 1894 the address appears as 570–590 Franklin. In 1895, the listing is the same as the previous year and in 1896 the company name was changed and it appeared as follows:

> Hart & Co. (Henry C., Robert W., and Henry P. Hart & Michael W. Murray) Cabinet Hardware.

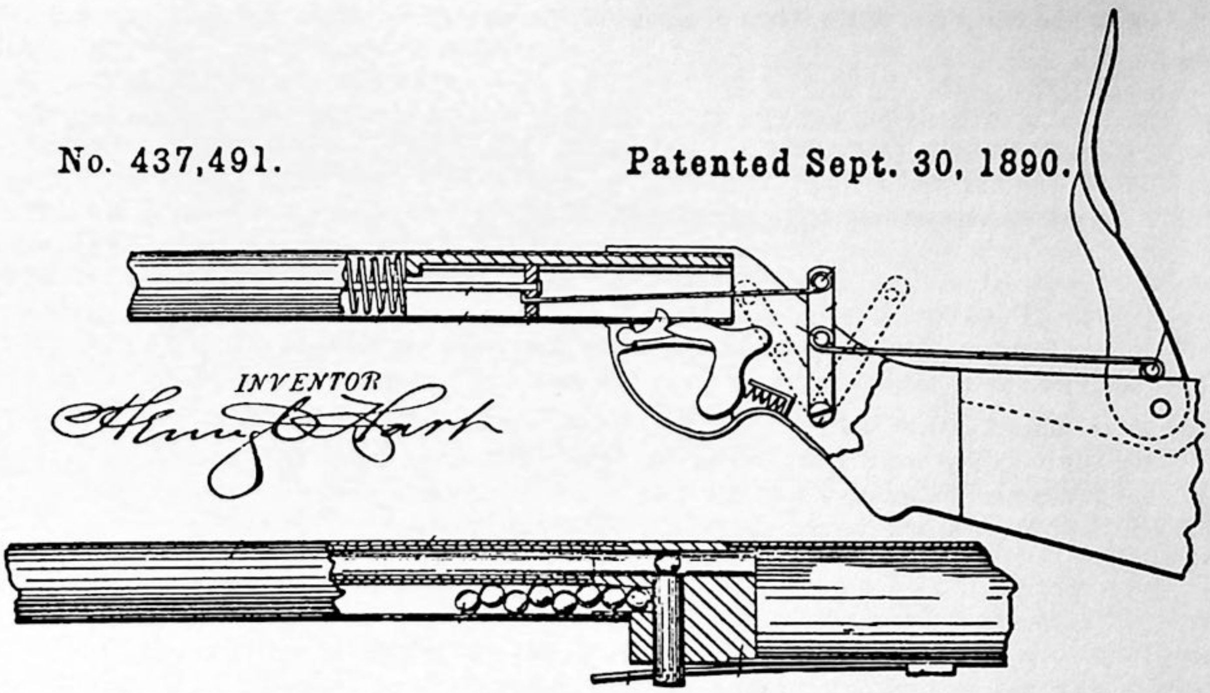
The listing for 1897 is the same. Michael W. Murray does not appear in the 1898 listing. The address was again changed in 1899 to 74–78 Fort Street East.

The name of Henry C. Hart does not appear after 1900. It is not known whether he continued in some other business or died. Hart & Company (Limited) appears in 1900, Hart Company appears in 1901 and 1902, and the name was changed to Buckley-Hart Company in 1903. The company is not listed after 1904.

In none of the listings are B.B guns or air rifles mentioned, nor does the trade name MATCHLESS appear. The only products mentioned are brass goods and cabinet hardware.

It can be assumed that the Hart Company followed the pattern of most metal shops in that period, either producing a variety of goods on contract or producing major goods of their own with B.B guns being used as a filler to keep the machines and employees occupied during slack periods.

This assumption is further reinforced by the fact that a lengthy entry in *Detroit in History and Commerce* (Detroit, 1891) does not contain any mention of the company produc-



ing air rifles. They employed 450 people and grossed $275,000 in that year.

The Matchless Air Rifle was unusual in its time for at least three reasons. First, it was very expensive, retailing at $1.75 in a time when competitors' guns were priced at less than half that. Secondly, the Matchless was the only repeater on the market in 1890. Thirdly, it continued to use cast iron parts long after most other makers had adapted to all sheet metal designs.

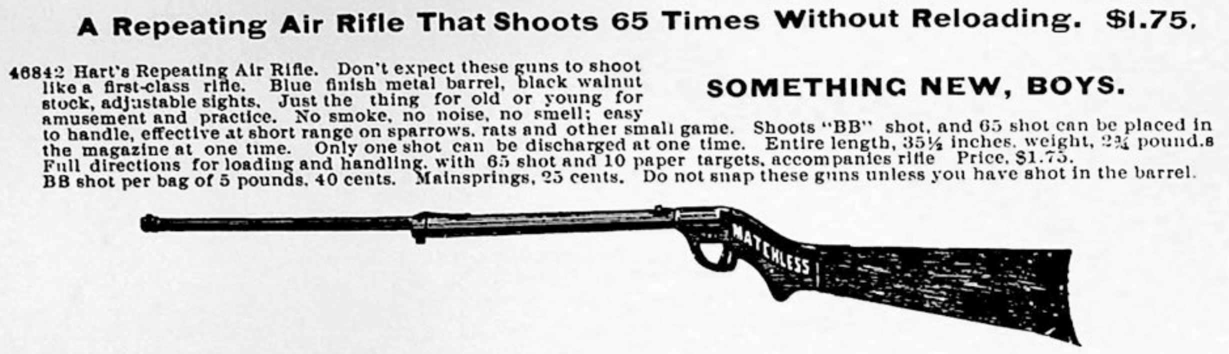
Functionally, the Matchless was not a true repeater. It was simply a single shot with a built in shot reservoir containing a latch which, when depressed, allowed one B.B to pass into the breech of the shot tube.

Cocking was very similar to the Daisy/-Hamilton 1888 model. The round knob at the breech served as a handle for the top lever-action, which extended rearward into the butt stock. When the lever was lifted, the plunger spring was drawn back and the gun cocked. The magazine latch was then depressed and a shot entered the chamber.

Overall, the Matchless was an impressive B.B gun. It was 35½ inches long and weighed 2½ pounds. The stocks were walnut with a deep crescent butt. Sights were adequate with a simple post front and a V-notch rear in a dovetail atop the plunger housing. The cast iron frame was painted black and the plunger housing and barrels on earliest models were blued steel tubing. Later models were brass tubing, nickel plated.

The Hart Company did sell through both Sears Roebuck and Montgomery Ward catalogs during the late 1800s and apparently were at least moderately successful. The fact that the Matchless rifle disappeared from catalogs about 1900, at the same time that Henry C. Hart was no longer associated with the company, allows the assumption that the gun stopped being manufactured for some reason other than sales.

There were no major design changes in the gun during its manufacture from 1890 to 1900. Not all guns are stamped with the Henry C. Hart Manufacturing Company name and address on the stock. Some specimens are stamped Adams Westlake Company, Chicago. There is nothing to indicate that any of the guns among the specimens ex-



A Repeating Air Rifle That Shoots 65 Times Without Reloading. $1.75.

SOMETHING NEW, BOYS.

46842 Hart's Repeating Air Rifle. Don't expect these guns to shoot like a first-class rifle. Blue finish metal barrel, black walnut stock, adjustable sights. Just the thing for old or young for amusement and practice. No smoke, no noise, no smell; easy to handle, effective at short range on sparrows, rats and other small game. Shoots "BB" shot, and 65 shot can be placed in the magazine at one time. Only one shot can be discharged at one time. Entire length, 35½ inches, weight, 2¾ pounds. Full directions for loading and handling, with 65 shot and 10 paper targets, accompanies rifle Price, $1.75. BB shot per bag of 5 pounds, 40 cents. Mainsprings, 25 cents. Do not snap these guns unless you have shot in the barrel.

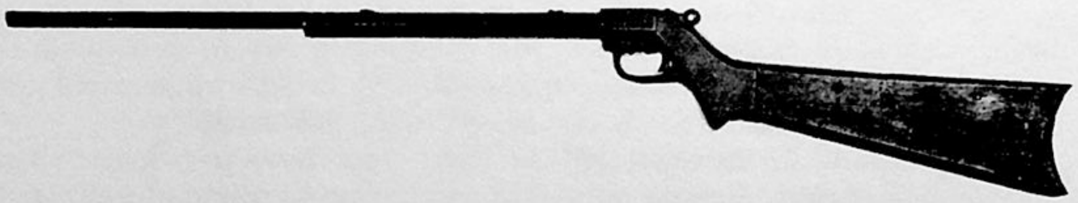
amined were manufactured by Adams Westlake. More likely they were distributed by them. One specimen examined had an unexplained E26100 stamped across the stock at the wrist.

A number of parts—particularly the rear sight, magazine latch, and muzzle loading gate—are easily lost. A complete specimen can be considered rare.

Matchless Chronology

1890–1895 Matchless Air Rifle, 1st Model: Break-open 65 shot repeater. Cast iron frame painted black, steel barrel with blued finish. Walnut stock with crescent butt. This model is marked MATCHLESS on the grip frame rather than on the breech. Top lever-action does not have a hammer spur or knob. Stock may be marked: Henry C. Hart, or Adam Westlake. (Very scarce) $100

1895–1900 Matchless Air Rifle, 2nd Model: As above with the following exceptions. Barrel is made of seamless brass tubing and bright nickel plated. Side of breech is marked MATCHLESS. Top lever was a prominent dummy hammer spur or knob. (Very scarce) $90

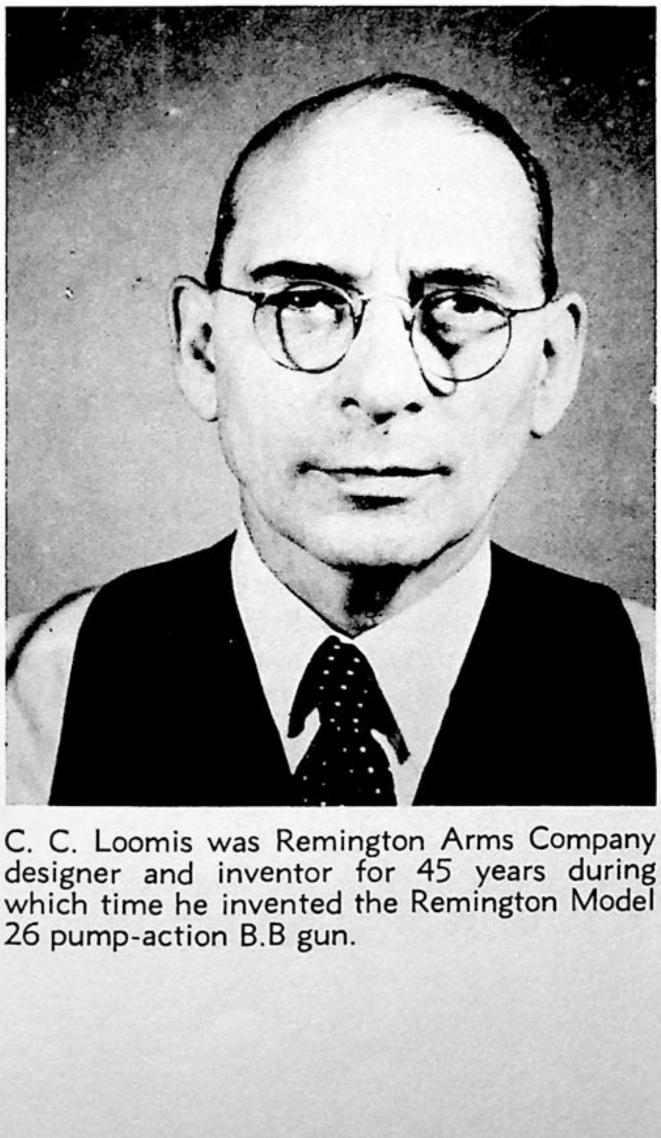


Section 12: Remington Arms Company/Ilion, New York

From the collector's standpoint, one of the most elusive and desirable B.B guns produced during the Vintage Period is the Remington Model 26 Repeating Air Rifle. A victim of the Depression, only 20,000 Remington pump-action rifles were produced from mid 1928 to mid 1930. Indicative of its rarity is the fact that the Remington Arms Company does not have a production specimen of its own B.B gun.

Development of the gun was begun in 1927 by C. C. Loomis who obtained five U.S. patents pertaining to its design from 1930 to 1932. His first patent was applied for in October 1927 and was not granted until August 1932, two years after the gun was out of production.

The late C. C. Loomis began work at Remington in 1905 as a draftsman. He was 20 years old and soon began to work his way into designing. Long before he retired in 1950, he had risen to the rank of chief designer with more than 35 patents to his credit. Loomis's designs for Remington included rim fire rifles, shotguns, military rifles, and an automatic pistol. The Model 26 Air Rifle was his only contribution to toy gun design and is considered by Remington to be a relatively small item in his career.



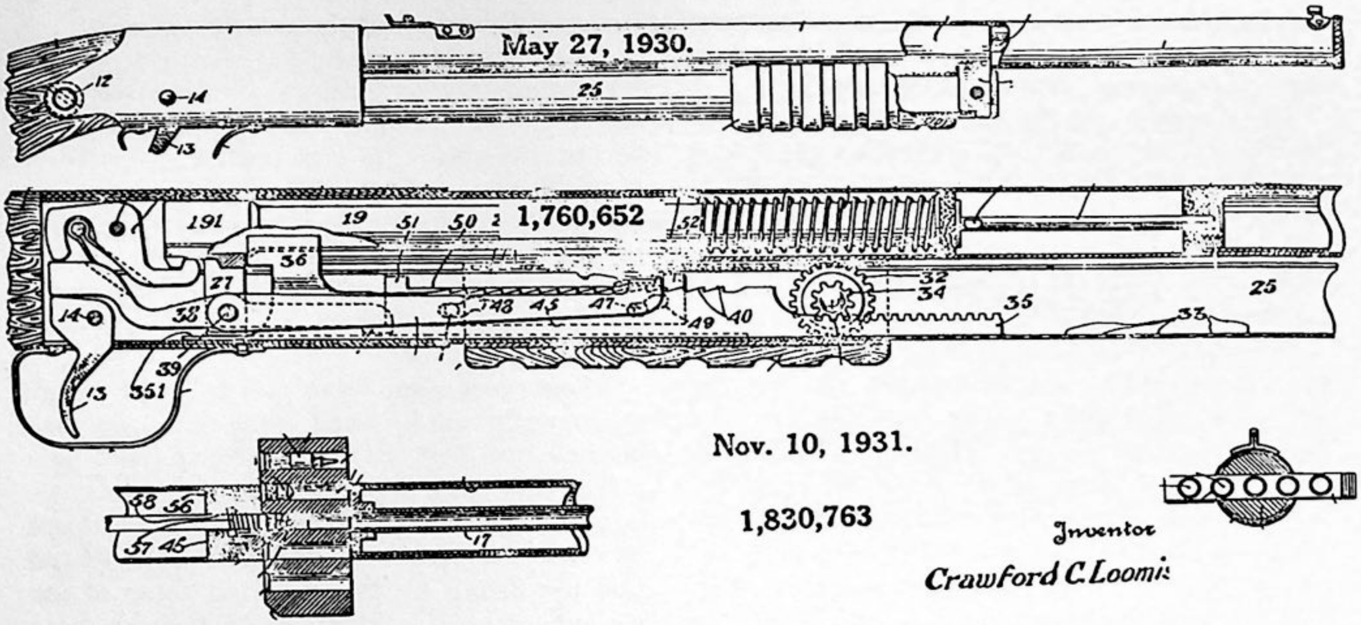
C. C. Loomis was Remington Arms Company designer and inventor for 45 years during which time he invented the Remington Model 26 pump-action B.B gun.

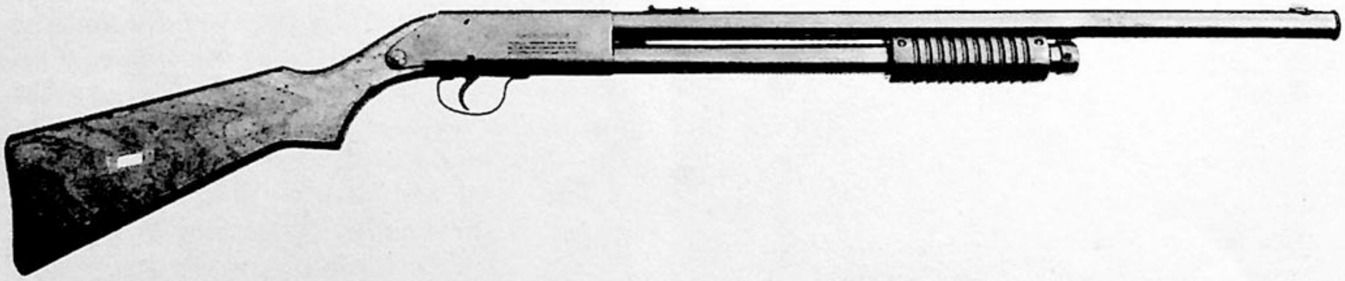
The principal patented feature of the Remington was a unique geared system for cocking the plunger and compressing the spring. As the slide was pulled rearward, a toothed gear racked the piston back, at the same time deploying cams which set the safety to prevent firing before the slide was returned. In all, it was an effective system requiring only moderate cocking force and smooth operation.

There were some weak points in the design as manufactured. Lead shot was specified because the gun used a crimped shot seat rather than the newer types of spring retainers. This meant that steel shot could not be used effectively because it had to be forced past the crimp by the battering force of the air tube which in time could become bent or broken. Remington did not guarantee proper functioning of the gun if steel shot was used. Secondly, the advertised take down feature was little more than a large headed stock bolt which when removed allowed the stock to be separated from the frame. This feature necessitated doing away with the usual top tang screw and made it more likely that the stock would work loose within the frame.

The third and perhaps most serious deficiency of the Loomis design was in its complexity. Many precision parts were necessary to make the geared system work and more parts cost more money. In addition, specimens examined by the author testify that the same attention to finish of wood and metal was given to the B.B guns as to other higher priced Remington firearms. The net result was high production costs and a retail price of $5.00 at a time when the better known Daisy Number 25 pump was selling for at least 50 cents less. That fact and the Depression caused the company to drop the gun in mid 1930 before it had really gotten off the ground.

Considering the short span of manufacture and the relatively few specimens delivered, the Remington Model 26 Repeating Air Rifle can be considered scarce and worth $50.00 in *excellent* condition.


May 27, 1930.
1,760,652
Nov. 10, 1931.
1,830,763
Inventor
Crawford C. Loomis
12
14
13
25
191
19
51
50
52
36
27
38
48
45
47
49
40
32
34
35
33
39
351
56
57
17



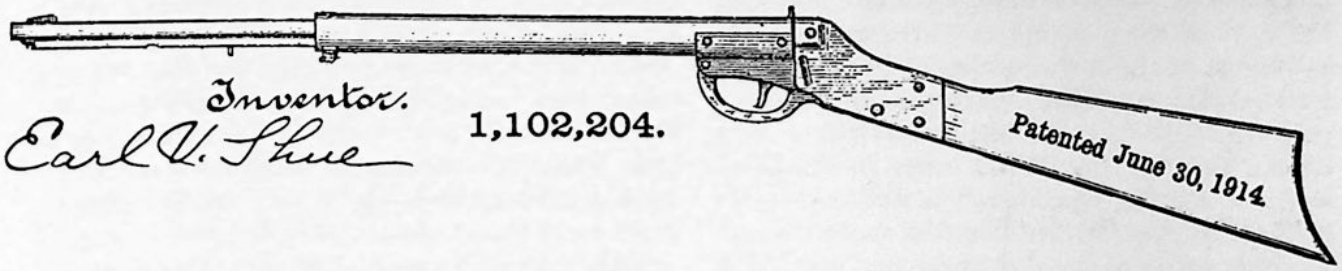
Section 13: Shue Air Rifle/Milwaukee and Neceeda, Wisconsin

Earl V. Shue, Milwaukee, Wisconsin, was granted patent number 1,102,204 in June 1914 for a break-open repeating air rifle that strongly resembled a Daisy 4th Model of 1892. Whatever was the patentable feature of the Shue design is not entirely clear from the application papers.

At the time the patent was granted, Shue was associated with the Shue Air Rifle Company of Milwaukee. The author has found no other record of nor specimens by that company.

During the early twenties, a clipping from an unknown magazine was sent to E. C. Hough of Daisy pertaining to the manufacture of Shue air rifles at Neceeda, Wisconsin. At that time the company claimed to have a rifle, ". . . which is represented as putting sufficient force back of a pellet to send it through half an inch pine board at a distance of 200 yards." In addition, the article discussed newly developed shot making machines, which the company claimed could make perfectly round B.Bs by an improved drop shot method.

With that stimulus, one might expect that E. C. Hough would look further into the matter and do as he had unfailingly done in the past—obtain at least one specimen of the competing company's air rifle. No such rifle can be found in the Daisy collection.



One can safely conclude that Earl V. Shue was involved in working with air rifles of the spring air type from the mid teens to the mid twenties. The mention of a pellet rather than a B.B, and high penetration suggests that he may have been involved in the manufacture and development of compressed air guns also. That is all that can be safely said until such time as a production specimen of the Shue Air Rifle is discovered.

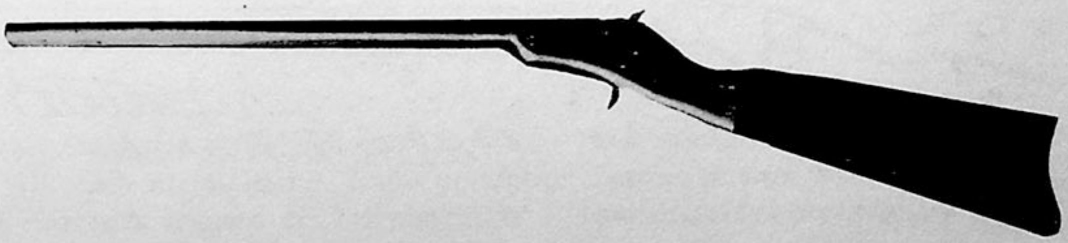
Section 14: Simplex/Chicago Rifle Manufacturing Company

The Chicago Rifle Manufacturing Company is one of those which seems to have disappeared without any trace other than its products. An examination of usually productive sources yielded no record of the company. Patents and other information allows approximate dates of manufacture from 1900 to 1910.

In addition to B.B guns, the company also manufactured DEFENDER cap rifles with peculiar trumpet shaped muzzles similar to blunderbusses. The paper cap was inserted in a slot atop the barrel and rested against a plate at the muzzle. The spring loaded plunger head struck the cap when the gun was fired. Cocking was accomplished by thumbing back a hammer at the breech connected to the plunger stem.

SIMPLEX B.B guns used the same design. A shot tube was inserted in the barrel instead of the cap muzzle. Spring tension was weak enough so that the hammer could be cocked by thumb pressure. Piston and hammer travel is less than 1½ inches—hardly enough to get the B.B through a piece of paper at ten feet. The barrel and frame are made from two pieces of nickel plated sheet metal pinned together through the breech. Frames are stamped: Chicago Rifle Manufacturing Company, with patents on one side and SIMPLEX on the other. Cap rifles are stamped DEFENDER.

The rifles were probably of limited manufacture intended as very cheap premium items. Specimens have been found with advertising messages stamped in the stock. (Rare) $40



Section 15: Sterling, Upton, and Wyandotte/ Chicago, Illinois; St. Joseph and Wyandotte, Michigan

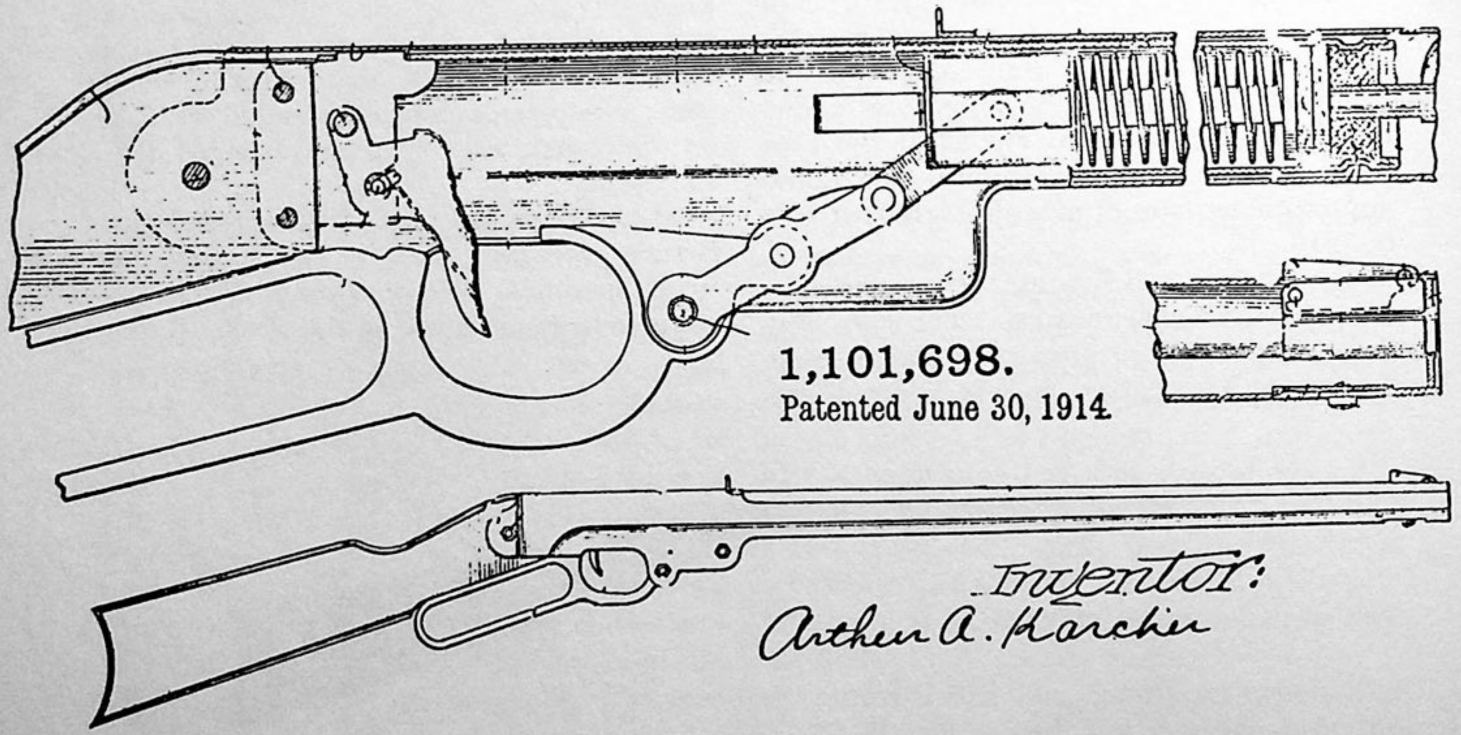
American Tool Works, Chicago, Illinois, began producing spring-air B.B guns as early as 1891 with the introduction of the STERLING, a nickel plated break-open single shot. In 1911 they brought out a big lever-action also named the Sterling. What other products, if any, the company produced is not known. It is likely that American Tool, like many metal working shops of the day, produced goods for other firms under contract. If that is the case, the manufacture of B.B guns would have been a sideline to occupy presses and other machinery during slack times.

The company did not fare very well. They apparently did not sell any of the large mail order houses even though their Chicago location should have given them an advantage. Probably guns were made up in small lots with most going to seed, greeting card and similar companies who gave them as premiums to child salesmen. By 1912, the company was going bankrupt.

In the meantime, the Upton Machine Company of St. Joseph, Michigan, was falling on hard times. Originally incorporated for the manufacture of washing machines, Upton's experience was similar to that of Plymouth Iron Windmill. Washing machines did not catch on fast enough to keep the factory operating on a profitable basis. Casting about for something else to manufacture, Upton took over the mortgage of American Tool Works, issued Upton stock to its shareholders, and began to manufacture B.B guns.

Under Upton ownership, the manufacture of the Sterling line was continued, with guns being stamped "American Tool Works, St. Joseph, Michigan" rather than with the old Chicago address. Guns so marked were widely sold as premiums.

At the same time, Upton began the manufacture of identical guns carrying the Upton name and St. Joseph address. The first of these guns was the American Dart Rifle introduced in 1912. It had a uniquely designed magazine cover beneath the barrel which allowed breech loading of darts without removing the shot tube. The Upton guns were



predominantly blued while those carrying the Sterling name were nickel plated.

Upton succeeded where American Tool had failed in selling a large mail order house: Sears Roebuck. This provided Upton with an outlet for its guns, and later, when the company went back into the washing machine business in earnest, also provided them with a customer for washers.

Upton designs remained basically unchanged from the original lever-action Sterling until about 1920 when the guns were considerably streamlined. At that time Upton was manufacturing a full line of B.B guns: a break-open single shot, a lever-action single shot, a 500 shot lever-action, and a 1000 shot lever-action.

Upton Air Rifles were also sold abroad, particularly in Great Britain. In 1915, the export business in air rifles had grossed $48,900. A year later, the revenue from air rifles at home was $69,000 compared to only $18,000 from the sale of washing machines. Clearly, B.B guns were keeping the company alive. Incidentally, the company also manufactured a wide array of punch pressed toys including cars, tops, capguns, games and mess kits which were sold by the hundred gross and retailed for about 10 cents each.

Although the Upton and American Tool B.B guns were not notably reliable or durable, they were very attractive rifles. The big 1000 shot Sterling—with its nickel plate, walnut stock, deep crescent butt, and long straight octagon barrel—was particularly good looking.

During the period from about 1912 to 1928, Upton B.B guns were the principal air rifles offered by Sears. When Sears demanded jobbers prices and Daisy refused, Sears turned to Upton for all their B.B guns except the Daisy Number 25 pump, for which they paid full price.

With the end of World War I and a let up in material shortages, Upton began to manufacture washing machines on a stepped up schedule. By the mid 20s they were looking for a way out of the B.B gun business. Sears approached Daisy and asked them to manufacture the Upton B.B guns for Sears, using Upton dies. Daisy refused, saying they would be happy to make guns for Sears but on their own dies and with their own designs.

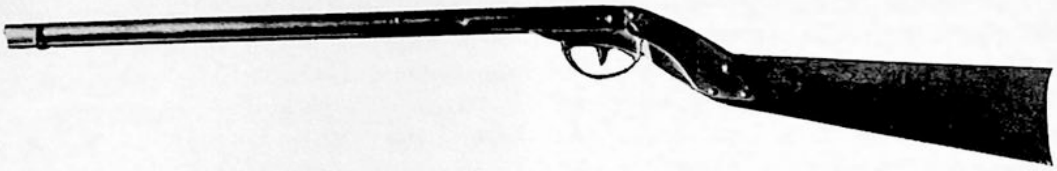
Sears then approached All Metal Products Company of Wyandotte, Michigan and offered all the Upton tools and dies plus the promise of all the Sears B.B gun business for $100,000. All Metal Products, who had been a long time manufacturer of toy play rifles, saw this as an opportunity to get into the B.B gun business and accepted.

From June 1927 to February 1929, All Metal manufactured B.B guns for Sears under the Ranger trade name and under the Wyandotte trade name for themselves. They did not introduce any new designs.

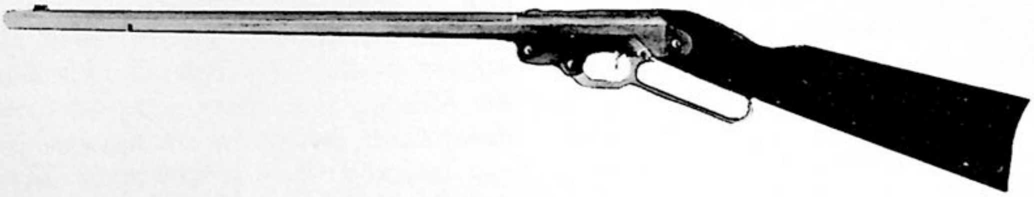
B.B gun manufacturing did not turn out to be all Wyandotte thought it would. One report is that among other things, All Metal Products inherited the service problems stemming from the none too durable Upton and Sterling models already manufactured. Another report has it that Daisy couldn't stand the competition and wanted to buy All Metal out. The latter seems least likely, for when All Metal Products quit the B.B gun business in 1929, they sold all tools and dies to King Manufacturing Company for $1.00 in return for an agreement from King not to cut All Metal Products' throats in the popgun market. King later dumped the American Tool, Upton, and All Metal dies in the Detroit river.

Product Chronology

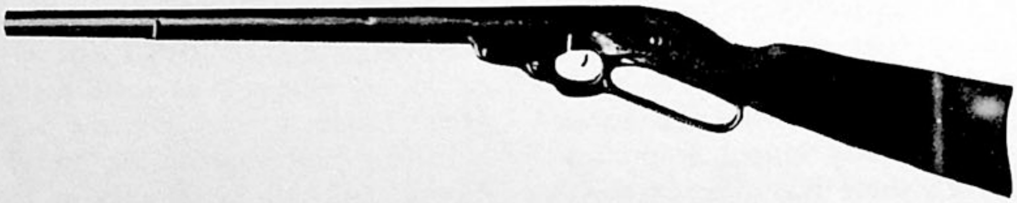
1891 Sterling Air Rifle: Single shot break-open. All sheet metal barrel, frame and grip frame; cast iron trigger. Nickel plated. Walnut stock, slab sided, crescent butt. V-notch rear sight, post front sight. Left side of frame marked: 1891 Sterling Air Rifle, Pat. applied for, American Tool Works, Chicago. Manufactured 1891 to 1911. (Very scarce) $75



1911 Sterling Air Rifle: Presumed from advertising cuts to be a single shot. No specimens have been examined. Such a gun existed; it looked like the later model Sterling and Upton lever-actions, and was most likely marked: American Tool Works, Chicago. (Very scarce) $60



1912 American Dart Rifle: Single shot lever-action. Specially designed to breech load feathered darts via a magazine cover under the barrel. All sheet metal with cast iron lever. Blued. Walnut stock with deep crescent butt. V-notch rear sight, blade front. Barrel marked: American Dart Rifle, Upton Machine Company, St. Joseph, Michigan. Unknown term of manufacture: probably 1912 to 1920. (Scarce) $50



1917 Sterling Special Air Rifle: Single shot break-open. Same as the 1891 Sterling except marked: American Tool Works, St. Joseph, Michigan. Probably manufactured with these markings from 1912 to 1929. Sold by Sears in 1917 for 42 cents. (Scarce) $25

1917 Sterling Lever-Action 500-Shot Repeating Air Rifle: Lever-action repeater. Design similar to 1911 Sterling and 1912 American Dart. Blued. Walnut finished stock. Sold by Sears in 1917 for $1.25. Probably manufactured with American Tool Works, St. Joseph, Michigan, marks from 1912 to 1929. (Scarce) $55

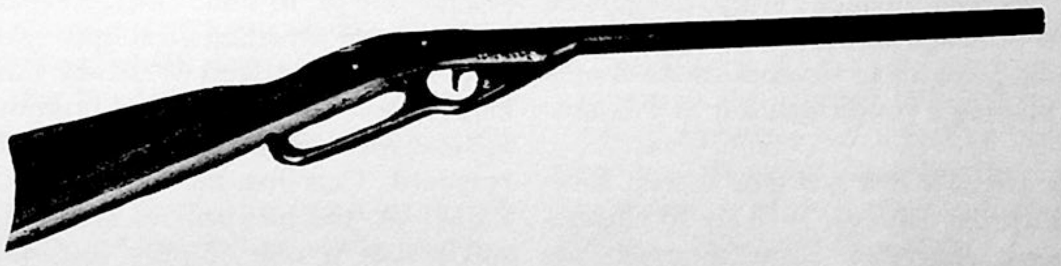
1917 Sterling 1000-Shot Lever-Action Repeater: This is the big model with octagon barrel. It was produced in both blue and nickel. A continuation of the 1911 Sterling design, this gun was sold by Sears in 1917 for $1.68 and was marked: American Tool Works, St. Joseph, Michigan. Probably manufactured from 1912 to 1929. (Scarce) $60

1922 Upton Special Air Rifle: An Upton Machine Company marked version of the Sterling Special of 1917. Reflects a change in offerings at Sears, not a change in guns. (Scarce) $30

1922 Upton Single Shot Air Rifle: Lever-action single shot. Same Sterling design as on all Upton rifles. Sold by Sears in 1922 for $1.15. Upton Machine Company marks. Manufactured from 1912 to 1929. (Scarce) $15

1922 Upton Model 40 1000 Shot Repeater: Lever-action. First new design from Upton. Streamlined sheet metal frame and round barrel. Pine or gum stock. Blued. This appears to be the first 1000 shot Upton, the octagon barrel Sterling being always marked American Tool Works. This gun sold by Sears in 1922 for $1.48. (Scarce) $25

VARIATION: 1928 *Wyandotte 1000 Shot:* Same as above except marked All Metal Products, Wyandotte, Michigan. 1928 to 1929. (Very scarce) $35



VARIATION: 1929 *Ranger Repeating Air Rifle:* Same as above except manufactured under Sears name by All Metal Products. (Very scarce) $35

5

COLLECTING B.B GUNS

WANTED TO BUY: B.B Guns. Classified ads will bring many calls from young boys. Obey the cardinal rule of gun collecting and never buy from children. Chances are the old B.B gun they have belonged to their grandfather and the collector who buys it will find it a poor bargain when confronted by the boy's irate father.

Section 1: Understanding B.B Gun Actions

As a search of U.S. Patents quickly shows, there are almost as many ways to compress the mainspring on a B.B gun as there are ways to get in trouble with slingshots. Turn-bolts, draw-bolts, trombone-pumps, side-levers, cams, gears and toggles: every imaginable and some unimaginable devices have been invented and patented to accomplish the simple task of pushing a round ball out of a hollow tube.

There are only five B.B gun actions, however, which the collector is likely to encounter among American manufacturers: the push-barrel, break-open, lever-action, elbow-pump and trombone-pump. Although all five were being manufactured as late as 1958 and three are still used today, they arrange themselves chronologically by date of the first appearance in the above order.

The first popularly priced American push-barrel guns were those manufactured by Quackenbush in the 1870s. They were of the spring air type but not intended as toys. Their powerful mainsprings plus their intended use as serious parlor guns places them outside the toy category. Also in the push-barrel family are the cane or walking stick guns which were intended as inconspicuous weapons of self defense or, in some cases, weapons for the collection of ornithological specimens.

In the 1890s Adams Westlake Company of Chicago sold a toy B.B gun of unknown manufacture which cocked by sliding the barrel rearward. Carrying the stock markings COLUMBIA, the inexpensive and simply made single shot is one of only four push-barrel types in the B.B gun field. At least 35 years passed before the introduction of the next push-barrel design—a pistol designed for Daisy by Fred Lefever. The subcaliber #118 Targeteer is still manufactured today. Two other current manufacturers produce push-barrel B.B guns: the Crosman V-350 rifle and the Marksman air pistol. The latter is an unusual deviation from the traditional push-barrel design. As the barrel assembly is pushed rearward, the spring is only half compressed. The remaining slack in the spring is compressed on the returning motion of the slide assembly. This design reduces cocking force and the distance of slide travel. It's amazing that someone didn't think of it earlier.

In a generalized push-barrel design, the outside of the barrel assembly and the encased plunger tube are forced back against the plunger head, compressing the mainspring to a point where the piston stem engages the sear or trigger and is locked. The slide is then returned to its forward position and the gun can be fired. Upon release, the piston is thrust forward by the mainspring, compressing the air in its path and expelling the B.B projectile. The following simplified diagram helps to explain this action.

In all common push-barrel B.B guns, it is possible to release the piston by pulling the trigger while the barrel assembly is still in the rearward position. This throws the entire assembly forward by the thrust of the piston and the projectile is only weakly, if at all, discharged. The practice does little damage to the gun, but is a quick way to shorten any long fingers which intervene between the slide and the stationary frame.

By far the most popular and venerable B.B gun design used the stock and barrel as levers for compressing the spring. Appearing first in the Challenger in 1886 and enduring through dozens of manufacturers and models until the Daisy Standard, which was taken off the line in 1958, the break-open has pinched more fingers for less money than any single mechanism.

In its simplest form, the break-open B.B gun was hinged at the bottom of the junction of stock and frame with a strong wire or other linkage connecting the top of the stock with the end of the piston shaft. As the stock was pushed downward, the linkage was drawn back until the spring was compressed and the piston shaft engaged the sear. The stock was then returned to its normal position, after which the gun was fired in the normal manner.

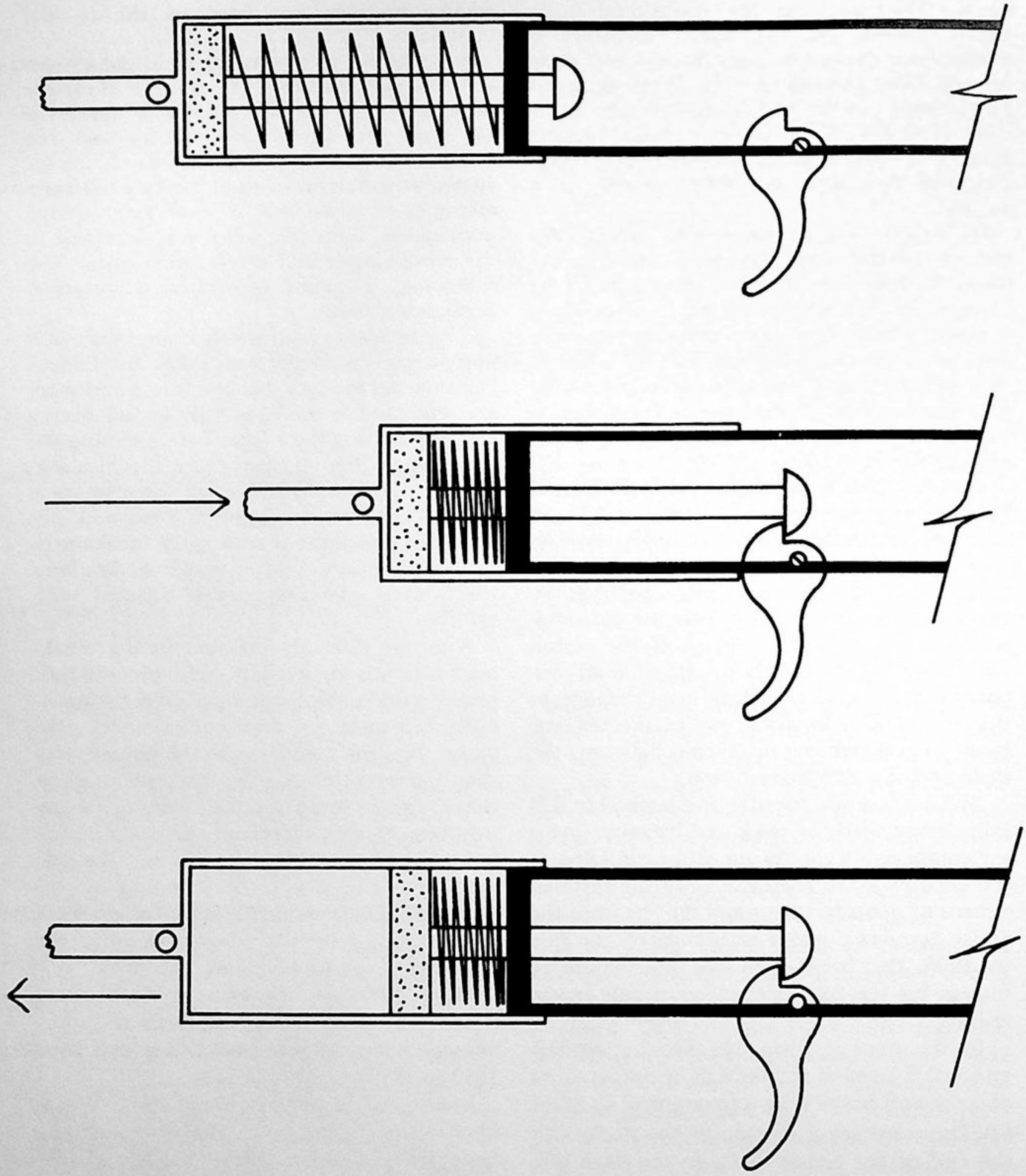
A common variation was to hinge a lever inletted into the stock or running alongside or on top of the barrel in the frame. The lever was then drawn rearward pulling back the plunger through the same kind of linkage system as in the break-open. After a few early attempts to make this type of lever design marketable, most manufacturers returned to the more simple and direct break-open. The following diagram illustrates a common break-open action.

The break-open, more than any other B.B gun action was dangerous to skin and fingers. Considering the fact that the frame and stock are separated as much as four inches during cocking, pulling the trigger before closing the action snaps the two parts together in a scissors like fashion with enough force to cut a finger to the bone. The problem was not nearly so pronounced with early break-opens constructed of thick edged cast iron; but later sheet metal guns are to be handled with caution.

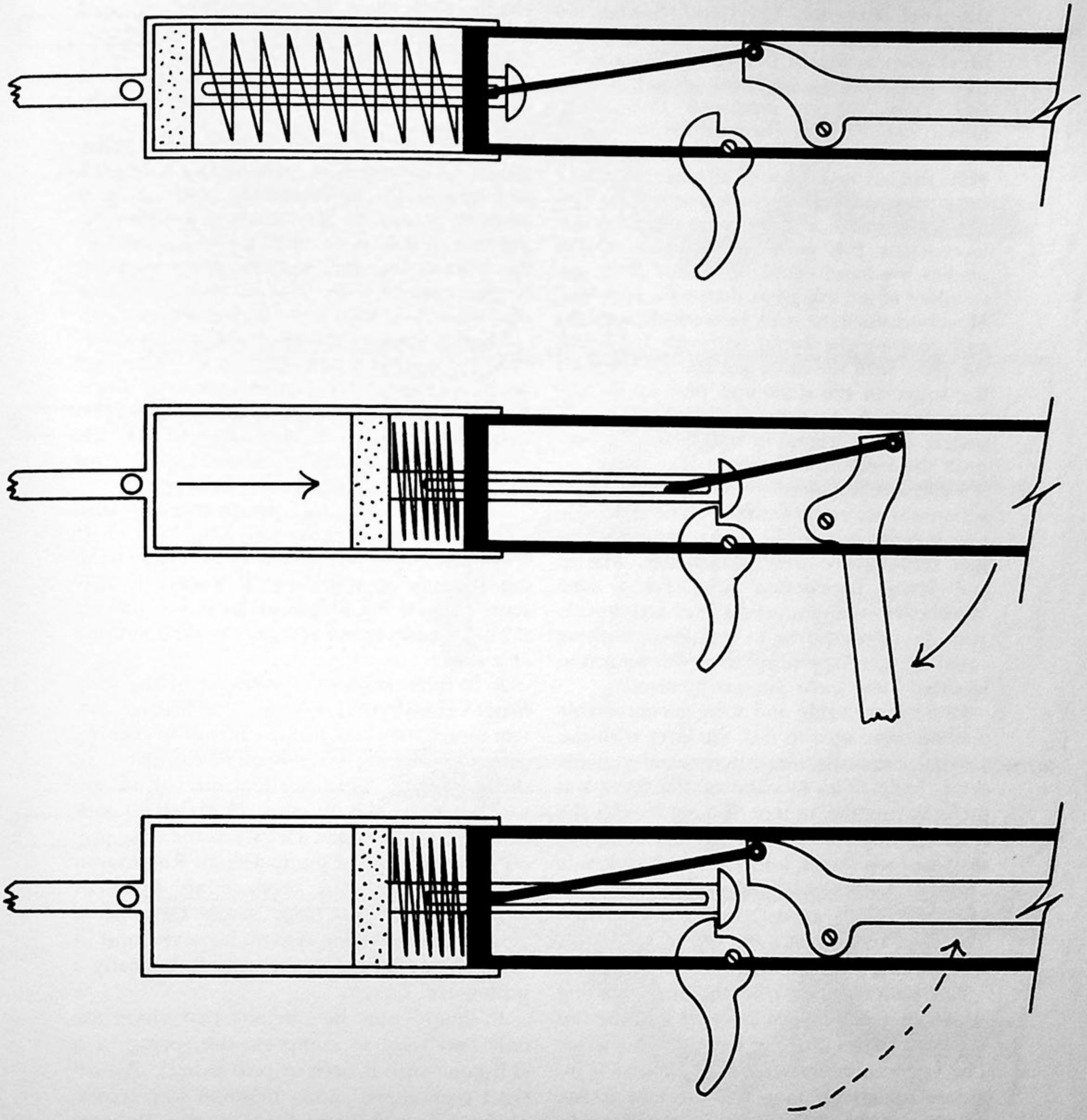
A second difficulty inherent in the break-open action is the strain produced on the link between the stock and plunger. In early break-open B.B guns (or later cheap model popguns), the link connected to the plunger was simply passed through the stock wood, often times without even a metal bushing for reinforcement. In a short time the strain on the link wore or tore out the wood and the gun was, from the boy owner's standpoint, irreparable. Later models solved this problem by providing a metal stud or cross pin at the junction of the plunger link and stock.

Many attractive and effective break-opens were manufactured. A collection including one specimen of each model produced from 1880 to 1970 would fill a barn.

From an historical standpoint, W. F. Markham's Challenger is the first and most desirable break-open. During the Antique Period (1880–1900) almost all B.B guns produced were of that type. Break-opens predominated during the Collectible Period (1900–1920) with Heilprin's elaborate Columbia



PUSH-BARREL



BREAK-OPEN

the jewel of the lot. The Daisy Number 100 was, to the author's taste, the most attractive break-open produced during the Vintage Period (1920–1930). No break-open B.B guns are presently being produced. Daisy's late model Standard was discontinued in 1958.

The first lever-action B.B gun appeared in 1890 and, in one form or another, has been in continuous manufacture ever since. Mechanically, there is little to recommend the lever-action B.B gun; almost none of the models produced could be cocked from the shoulder of anything less than a six foot boy. Most boys stuck the stock between their thighs and grasping the barrel with one hand and the lever with the other got the job done by the squat on the stock and pull up on the lever method. A variation was to place the muzzle on the ground or toe of the shoe and push the lever downward.

From a sales standpoint, however, the lever-action was extremely desirable. The most popular firearms during the entire period of B.B gun manufacture were Winchester, Marlin and Savage lever-action rifles. For a time Winchester even produced a lever-action shotgun. To boys aspiring to real guns, nothing could be more appealing than a lever-action modeled after those famous firearms.

Every conceivable and some inconceivable methods were used to link the lever with the plunger: loops, links, rods, gears and even bicycle chains. The location of the lever was preferably on the bottom of the gun with the lever forming part of the trigger guard. But some had top levers, under barrel levers, side levers, and levers hidden in the stock. The first Daisy, 1887 model, was a lever-action. The lever rested along the top of the barrel also forming the rear sight.

The MATCHLESS air rifle, the first repeating lever-action, had a lever inletted into the top of the stock with the lever located at the wrist. The first lever-action to use the popular Winchester underlever loop was the NEW RAPID, manufactured by Wheeling of Grand Rapids, Michigan.

There is a design limitation in the lever-action which has nothing to do with mechanics. Obviously, the strength of the pull required to cock the lever is directly proportional to the length of the lever. But the lever cannot be longer than is consistent with good design or it becomes an unsightly appendage to the gun.

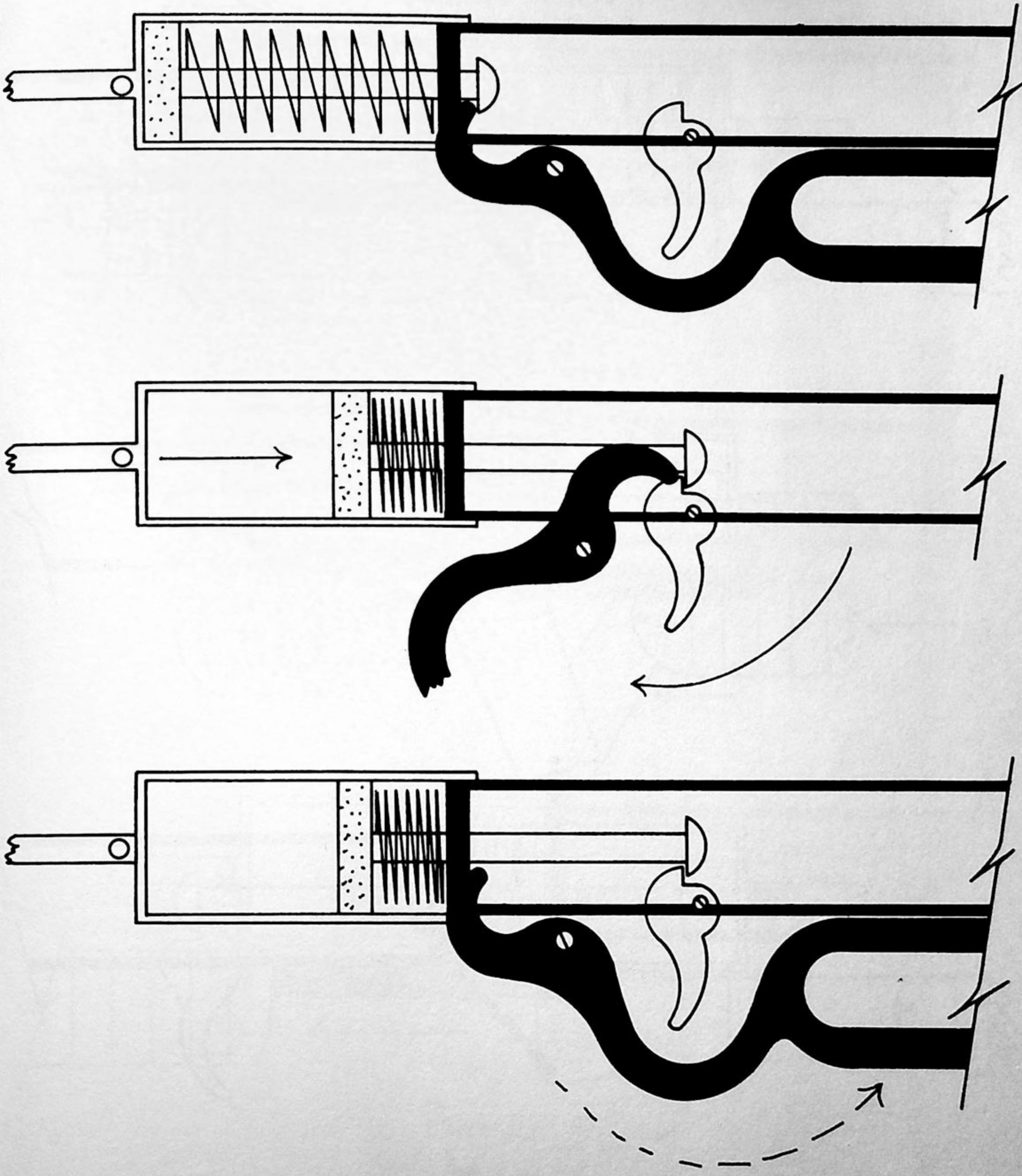
In 1952, Daisy moved the fulcrum (lever screw) of its standard lever-actions one inch and succeeded in decreasing cocking pull from 35 pounds to 16 pounds, a welcome relief to kids who were used to placing the barrel on their toes and pushing down mightily on the lever to cock. The following illustration explains a basic lever-action system.

Charles Lefever's famous Daisy pump-action B.B gun first appeared in 1913 and has been in continuous production ever since. From the beginning the #25 pump appealed to boys because of its similarity to familiar pump rifles and shotguns. It was also the most powerful toy B.B gun ever produced.

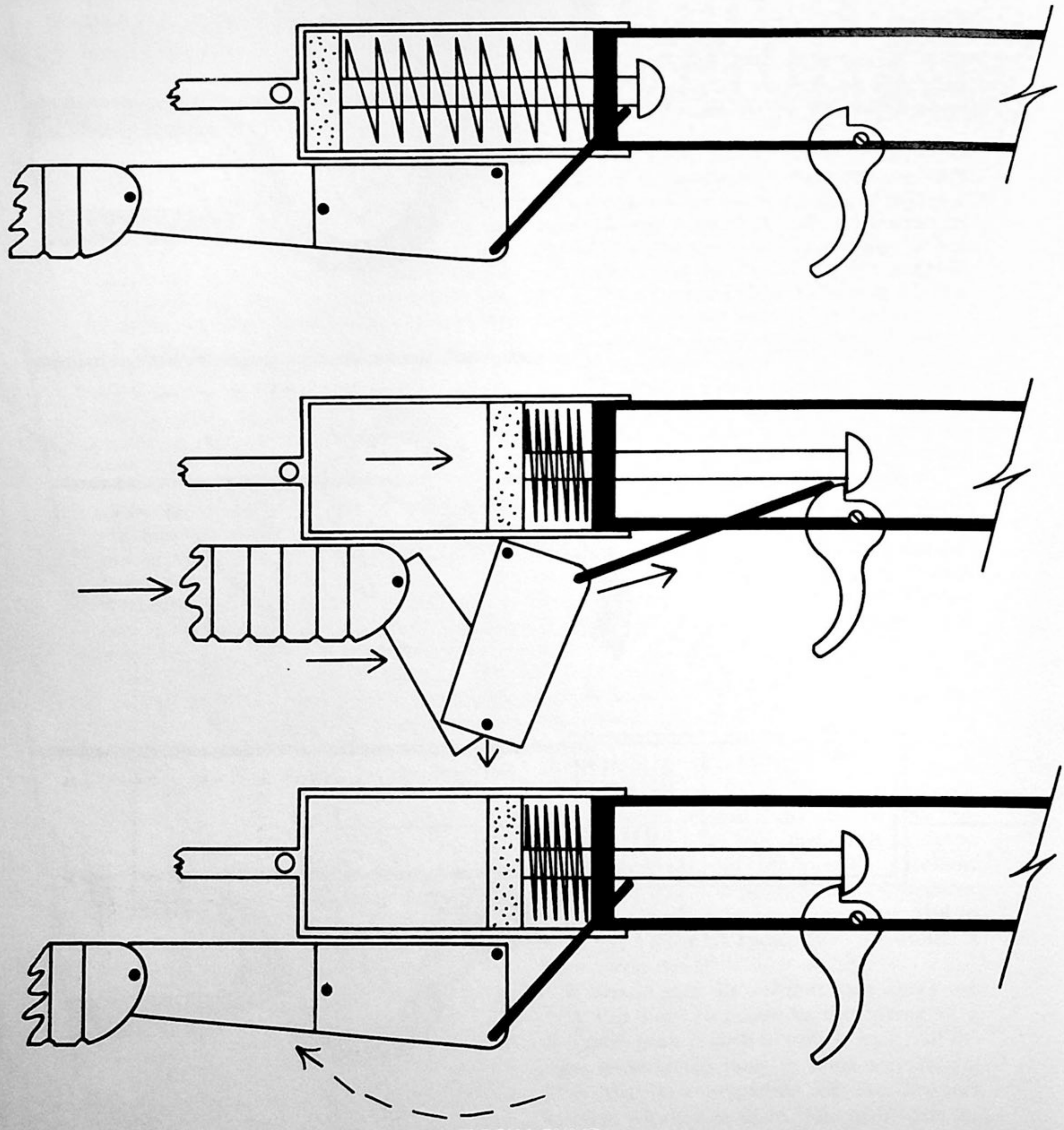
Lefever's elbow-pump design was mechanically simple but expensive to manufacture. It contained more parts with more critical tolerances than other types of B.B guns. Understanding how the action works is not difficult if one considers each link in the diagram one at a time.

A 14 inch rearward movement of the slide handle transferred through the linkage system moves the plunger four inches to cocking position. Cocking force is small compared to the work done. This excellent mechanical advantage makes the Number 25 easiest to cock of all B.B gun designs. Daisy was the only producer of this type of pump-action. Remington Arms Company did produce an excellent pump B.B gun just prior to the Depression. It used a geared slide system, however, and in spite of its external appearance is basically a push-barrel design.

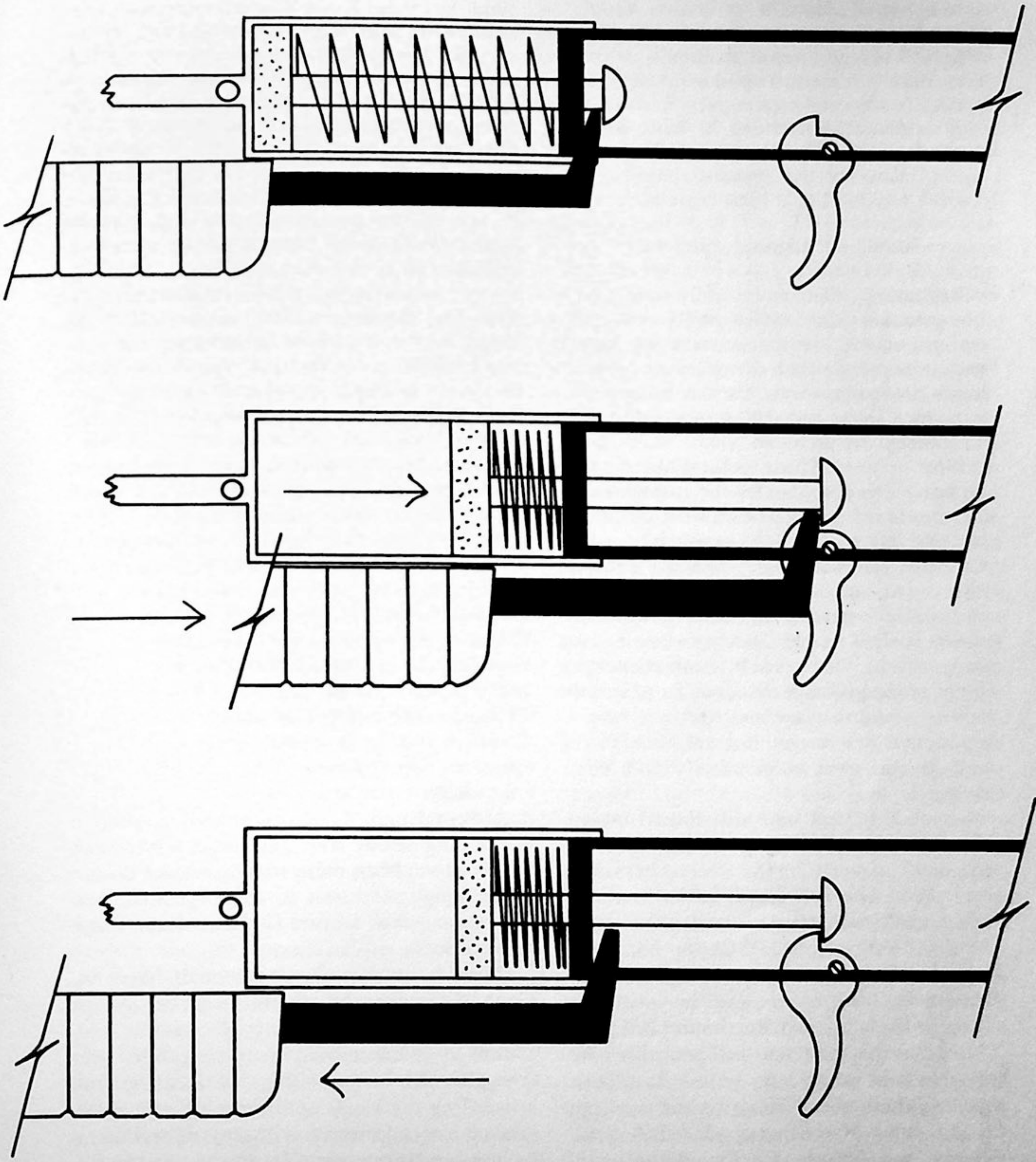
It should now be obvious that there are only two ways to compress the spring of a B.B gun: push it back or pull it back. All designs encountered must in some way accomplish that task regardless of the linkages through which it is done. The fifth basic action, the trombone-pump, is simply a variation of the basic push-barrel in which an



LEVER-ACTION



ELBOW PUMP



TROMBONE PUMP

under barrel mounted rod with a handle on the end is used to push back the plunger. There is no mechanical advantage to the system since force equal to the strength of the spring is required to compress it. Such a design as manufactured first by King and later by Daisy did have sales appeal. The straight pump achieved its greatest popularity in Daisy's famous Buck Jones Special.

Section 2: Locating Specimens

Beginning collectors typically make one of two mistakes: they either project too much enthusiasm for the specimens they discover and consequently push the price up; or in trying to hold prices down, they try to keep their interests a secret and seldom uncover a specimen except by accident.

What is needed is a point somewhere in between—demonstrated by the mature collector who is interested, knows what he is buying, and will pay a fair price for it.

Part of the difference between a collector who is only moderately successful and one who is able to amass a large and valuable collection is often simply knowing where to look for specimens. One needs to think about such things as the probable distribution of specific models, where they are most likely to be preserved, and how to get the word out to the most people most economically and effectively.

Not all B.B guns were distributed nationwide. Some of the earliest specimens were sold predominantly in the areas where they were produced. This is particularly true if only a small number were made. For example, the Remington Model 26 was not popular and only dealers who had large stocks of Remington firearms in the late twenties would be likely to order Remington B.B guns. This means that collectors will probably have better luck in urban areas on the East Coast than anywhere else. Chicago is the hot spot for the early Markham wooden B.B guns. Thorsen and Cassady distributed the CHALLENGER and CHICAGO model from that city. Mail order sales accounted for some of the guns, but there is still a heavier concentration in that city than elsewhere. The Philadelphia area has a heavier concentration of Heilprins than elsewhere. The guns were produced over a twenty year period, but were not widely distributed. Somewhere in Neceeda or Milwaukee, Wisconsin, are one or more Shue air rifles as yet unfound. By far and away the heaviest single concentration of B.B guns is in the area immediately around Detroit, where a half dozen manufacturers were producing B.B guns before 1900.

By putting together information in this book, the reader will be able to make additional educated guesses concerning the location of particularly desirable specimens. From then on it is simply a matter of deciding upon the most effective method for bringing the guns to light.

There are only two ways to locate collectible specimens. The first is to drive the wheels off the family car traveling from antique shop to antique shop in hopes of finding something worthwhile. This can be fun for the entire family if all are interested or if other family members collect something else which can be found in the same shops. Collectors who do not make successful attempts to make collecting a family hobby miss much enjoyment. Going it alone can get to be a dreary business in which the family comes to resent the time spent on something in which they are not interested.

A second and more productive method is advertising. Both free and paid advertising are effective. Most collectors, however, do not give enough attention to the exposure their hobby can get at no cost to themselves. These deserve some explanation.

Every community large or small has a variety of service and special interest groups whose need for interesting speakers is constant. Program chairmen year after year struggle with the problem of locating and scheduling the kinds of informative or entertaining meetings which will please their membership and draw new people to the group. The alert B.B gun collector who makes himself available to such groups does both them and himself a service.

While not everyone can be an outstanding public speaker in any classic sense, anyone who is genuinely interested in anything can, with a little planning, some practice and lots of enthusiasm, present a good program on the subject. The beginning speaker should find the following advice helpful.

Choose for the theme or focus of your presentation whatever it is that excites you the most—be it the artistic quality, mechanical features, variety, or the fun to be had from shooting them. Make a simple introductory statement about that. For example, one might begin by saying that B.B guns enjoy greater variety of design than any other children's toy.

Once that theme has been stated, the remainder of the talk can be devoted to demonstrating that point. Provide plenty of specimens for examination. Remember that when handling an object for illustration, the audience is supposed to be doing the looking, not the speaker. Hold the gun up high enough for people to see and hold it steady. Don't gesture with it. If something needs pointing to, reach across with a pencil or pointer and hold its end on the spot being talked about. Proceed slowly with demonstrations, giving the audience time to see what is being highlighted.

Don't overlook visual aides. A set of slides made from pictures in this book will help fill in gaps in a collection and add variety to the program. Projected pictures are also easier for the audience to see. Remember that an audience tires quickly of too much of anything: mix pictures and specimens for the most interest. Pictures should be projected for no more than a half minute unless something within the picture is to be examined or studied. Always remember that the audience is not nearly so interested as the speaker, or they would all be collectors. Give them only the highlights and communicate the smaller appreciations later to those who want to talk after the presentation.

Although program chairmen will usually dictate the length of a presentation, many are not experienced enough to know that anything more than a half hour is too long to maintain audience interest. Keep talks to twenty minutes, make them fast paced and interesting. If time remains, use it to field questions from the audience as a group, or to allow them to come up and look at the guns while they ask questions individually. This is the payoff for the collector, and the time when specimens begin to come to light.

Incidentally, never emphasize the value of a collection in dollars. The audience will always over-value whatever B.B guns they have after listening to a talk on that subject. Bragging about high dollar value of a collection may prevent the collector from securing additional specimens from that group.

Local mass media—radio, television, and newspapers—are always interested in reporting on interesting presentations. To make coverage more likely, the collector should take time to notify these media in advance of his presentation. Newspapers will sometimes precede the presentation with an item in the paper referring to an upcoming talk. This can increase the size of the audience. Collectors have an advantage when it comes to media coverage because what they are talking about also makes good pictures. Expect photographers now and then and do a little advance planning about what specimens photograph best. Wear light colored clothing.

Older B.B guns in good condition are almost always found in the possession of elderly people. Unfortunately the guns seldom belong to them, but are usually the property of their grown children. Under those circumstances, it is virtually impossible to persuade them to sell the B.B gun.

Estate auctions and sales, on the other hand, are good places to look for B.B guns. The guns are usually not of much interest to buyers except as curiosities and do not presently command more than a few dollars regardless of their condition or rarity.

Gun dealers now and then have older B.B guns around their shops. It is always worthwhile to ask because the guns are seldom displayed with real firearms. Prices are presently low, although it will not take dealers long after the publication of this work to catch up on actual values.

One of the most overlooked sources of free advertising is the swap-talk or trading-post type of radio program popular in many communities. The programs are sponsored by local merchants and items to buy and sell are read over the air. Advertisements are placed by writing them on postcards to be deposited at the sponsor's business place or mailed to the radio station. Listenership among housewives is excellent, and if the program is scheduled during the noon hour, many men pick it up on the car or office radio.

Writing for radio advertising is tricky, as announcers seldom read the copy in advance; consequently, the collector using the service should follow some rules for maximum effectiveness. First, type the copy to be read so no misreadings can be made. Secondly, underscore those words which the announcer should stress. Chances are he will. Thirdly, type out the telephone number to be called at least twice. The announcer will usually repeat it if it is written that way. Most announcers will read the telephone number too rapidly to be recalled by the listener. Type it on the card with dashes between each letter. This will usually remind the announcer to slow down as he reads it.

The sample copy which follows should be effective for kicking a lot of B.B guns out of the bushes.

WANTED TO BUY ANYTIME. Old *B.B guns*. Collector wants *B.B guns* with wood stocks *not* plastic. Best prices for nickel plated *B.B guns*. Phone 4-4-2-0-0-6-7. 4-4-2-0-0-6-7.

If particular guns are wanted and the collector does not want to answer inquiries about others, the advertising should allow the listener to distinguish what is wanted from what is not wanted.

WANTED TO BUY ANYTIME. *B.B. guns* marked *Markham* or *King*. *King* or *Markham B.B guns* are clearly marked on top of the barrel. Best prices for *King* or *Markham B.B guns* in excellent condition. Phone 4-4-2-0-0-6-7.

Purchasing radio or television time for advertising is too expensive to warrant consideration. However, both television and radio frequently have locally produced talk-shows which are constantly looking for interesting personalities with something novel to talk about. B.B gun collectors and their guns qualify. One cannot make direct requests for purchasing guns on such a show. But the same kind of interesting materials skillfully presented that bring guns to light in speeches also work on television. Remember that radio is a verbal medium and be generous with descriptions. Of particular interest to listeners are any stories which involve local personalities. Television, on the other hand, is essentially a visual medium. Take advantage of it by displaying large decorative specimens and don't be afraid to give shooting demonstrations.

All collectors get pleasure from being recognized as someone special, but not all care to make personal appearances. For them, paid advertising provides a source for uncovering specimens. Local newspaper advertising if pursued on a regular basis will produce specimens for a surprisingly long time. Oftentimes, the collector is discouraged by the lack of response to his first classified ad. Readers react slowly and when they finally decide to sell cannot find the ad. For this reason, classified ads should be spaced a week to ten days apart and then not run again for a month or so. Rules for classified ad writing are similar to those for radio copy. Do not let the newspaper's ad taker write copy for you. Write it specifically to point out what you want. It is better to spend a dollar or two more for extra words than have it come out unclearly. Be sure and check the ad when it is published to make sure it is correct.

Nationally circulated periodicals such as *Shotgun News* and *Antique Trader* produce excellent results from their classified advertising format. Rates are inexpensive considering the readership and are worth the money so long as copy is well written. Again, the collector should take the time to be specific and clear.

Too many collectors fear that the use of such words as old, antique, or collector will cause the reader to over-inflate the value of what he has. That is a misconception. What neglecting to mention such things does is to confuse the reader and make him reluctant to respond. It is best to be honest and straightforward, even to the point of mentioning the prices the advertiser is willing to pay for the specimens he wants. The following classified advertisement has worked well for the author.

B.B GUNS WANTED. Collector pays up to $50.00 for some old B.B guns in excellent complete condition. Call 442-0067 anytime.

Classified advertisements can be placed by mail in out of town newspapers. The collector can reach the outlying areas of his state in this way, perhaps even into cities across the country where he suspects an unusually high concentration of particular specimens to exist. The necessity of asking readers to respond by mail will cut down on replies, but also makes it more likely that only those having desirable B.B guns will react. If the specimen wanted is clearly described and priced, it might be worthwhile to accept collect long distance telephone calls station-to-station at night rates.

Section 3: Buying B.B Guns

In all advertising, particularly local, responses from boys will out number adults four to one. It is a good idea not to cut such callers short. The collector should explain carefully what he wants, listen carefully to what the boy has (most often last year's Christmas present), and if he is still interested ask to talk to the boy's father or mother. If a deal is to be made, complete it through the parent, not the boy. Do the gun collecting fraternity a favor and explain it to the parent as a matter of good collecting ethics. Do not succumb to the temptation to take advantage of a boy's ignorance. Enough black shadows have been cast upon shooting sports in the past by unscrupulous dealers and collectors. Don't make it worse.

Providing the seller with a bill of sale has several advantages for the collector. It provides the buyer with a permanent record of the specimen's source, the price paid, and proof of mutually agreeable purchase. It also provides a record of otherwise easily forgotten prices for tax, insurance and estate purposes. If the following format is used, the collector may also secure leads for additional specimens as well as adding to his enjoyment of the collection through historical knowledge about individual B.B guns.

SAMPLE SALE BILL

I, ... (*seller's name*) . . . . . ., have on this date, ..., transferred my ownership of a B.B gun, ... (*make and model*) . . . ., to . . . . (*buyer's name*) . . . . . ., for the mutually agreed upon consideration of . . . . . . (*price*) . . . . . ., for which I have received full and complete payment.

Signed for the seller, ...
Signed for the buyer, ...

COLLECTORS NOTES: (This might include names and locations of prior owners, address and telephone number of seller, and any historical or trivial information which might later be forgotten. When new leads are slow in coming, a reading of such information often suggests new ones.)

Establishing dollar values for collector's items of any kind is an uncertain task. Only a few of the variables which contribute to the actual cash value of a specimen can be counted as absolutes: age, condition, rarity, original purchase price and probability of survival of a given model.

In reality, other less easily quantified factors—such as sentiment, artistic quality, popularity, and status—often inflate or deflate values derived from the absolute values system. Certainly one of the major determinants of an item's collector value is how much is known about its history. Until such time as the history of any specimen can be documented, it remains, no matter how attractive or interesting, a curiosity rather than collectors' item.

The dollar values recorded in this book are computed from a formula incorporating absolute factors. The prices given are for specimens in EXCELLENT condition; that is, original in every way with the only blemishes to wood or metal being those which might be expected as a normal result of age in a well cared for and little used gun. To compute the value of a similar specimen in GOOD condition, the reader need only reduce the given figure by one third. Specimens in good condition are those which are complete and working, but show sign of being well used without being mistreated. Encrusted rust or oxidation should not have damaged more than 25 percent of the original finish. To compute the value of a specimen in FAIR condition, the stated value is reduced by two thirds. Fair specimens should be operable but may have parts replaced either by factory produced or well-made equivalents. Minor parts, which are easily replaced—such as screws, nuts, bolts—may be overlooked, but major functional parts such as cocking pieces, shot tubes, or magazines when missing put the piece in the JUNK category. Values of junk specimens depend solely on how badly one needs parts or wants a particular specimen regardless of its condition.

Collectors entering the B.B gun field within this decade should take advantage of the fact that the field is new and would be well advised to buy nothing but the best available. Economists have shown time and again that investments in fine quality collector's items multiply in value at a rate higher than any commodity so far discovered. The better the quality of the specimen, the faster its value accelerates. Junk, on the other hand, simply becomes older junk.

One of the assumptions on which this formula is based comes from the observation that the value of other collectible guns has increased since 1880 at the rate of 50 percent of original purchase price per year from the date of manufacture. For example, a Colt Single Action Army revolver produced in the 1880s at a price of $7.00 is today in excellent condition worth at least $315.00. One in good condition is worth about $200.00, and one in fair condition is worth about $100.00. Novice collectors who are surprised at these values should realize that there are precious few Colts or anything else produced in the 1880s which are honestly in excellent condition as described in the previous paragraph. So too with B.B guns.

The complete pricing formula established by the author is somewhat complicated and probably does not need detailing. Suffice it to say that all of the previously mentioned absolute factors—age, original price, rarity, condition, and probability of survival—were incorporated into the machine computations used to derive all listed prices. What remains for the reader is simply to make the appropriate judgment concerning the specimen's condition and accept or adjust the listed price accordingly. Incidentally, while some prices may seem high, the author has more than once paid listed prices for truly excellent specimens and still considered them a good value for the money.

Section 4: Repairs and Maintainance

Metals and woods used in the construction of B.B guns deteriorate with time and neglect. Fortunately, the damage is seldom functional and the most unsightly specimens often shoot almost as well as when they were new. The problem facing the collector is how to make them look as good as possible given whatever remains of their original finish.

Rust and corrosion are the two common enemies of metals used in B.B guns. Most specimens were originally blued or nickel plated and each type of finish requires special techniques to restore it to its original beauty.

Bluing is the more fragile finish of the two. Guns do not have to be subjected directly to moisture to accumulate surface rust; the normal changes in temperature and humidity during attic or closet storage will cause moisture to precipitate out of the air and onto the surface of the gun. Showing first as a powdery reddish haze on the surface of the bluing, surface rust can be removed with steel wool and oil without leaving any trace.

Undetected surface rust, however, rapidly becomes a serious problem. Accumulating rust eats into the metal and causes blistering on the surface and pitting of the metal below.

Such pits are surprisingly deep and most attempts to polish them out prior to refinishing are unsuccessful. Once a gun has acquired encrusted rust and accompanying pits in the metal, the best one can hope for is to clean the surface and touch it up with a cold bluing solution which will blend in with surrounding undamaged finish.

Complete refinishing of any collector gun is seldom advisable. The resale value of reblued guns is usually lower than the price of a comparable original specimen; thus, the collector loses not only the money spent on refinishing, but also some of the value of the gun itself. The wisest procedure is to clean the surface of rust and retouch bare spots with cold bluing or to simply rub with oil and accept the gun as it honestly is.

Rust removal can be accomplished in two ways: mechanically or chemically. All that is needed to remove both surface and more serious rust is very fine steel wool, lots of oil, and time. Proceed carefully with steel wool so that surrounding finish is not damaged. The oil reduces the bite of the steel wool and at the same time softens the rust so it can be removed. Encrusted rust can be removed by careful scraping with a razor blade, again cushioned with plenty of oil. The finished gun can then be rubbed down with a light oil, some prefer lighter fluid, and the job is done.

One extra step can be added which will make the finished job more attractive. Rust can be killed by high heat applied for a long enough length of time. The gun should be disassembled, cleaned in the above manner, and placed in the oven at 250–300 degrees for an hour or so. This will evaporate moisture from rust and kill it. If a gas oven is used, the fumes will often impart a blue/gray finish to the bare metal which, when polished with steel wool and oil, is very attractive. Be careful not to heat the oven up too much or solder used to join older guns will melt.

Chemical rust removers are widely available in hardware stores. They should not be used unless no original finish worth saving remains on the gun. Gun bluing is a controlled oxidation which will be removed by solvent. Better to scrape and polish selectively unless the specimen is in unusually bad shape.

Nickel plated guns pose a more complex problem. Oil and steel wool along with razor blade scraping will remove rust. But it also removes any plating loosened by the rust. The only way the author has found to avoid losing plating is to clean only the surface rust stains from the plating and then bake the gun parts at the temperature suggested for a few hours. While still warm, the gun should be wiped down with a good paste wax, cooled and then polished with a soft cloth. The result is a good looking specimen which retains as much plating as possible.

When nickel plating is applied over brass, as on many Antique Period specimens, cleaning is easier. Any good commercial brass polish will clean the corrosion from the gun without damaging the plating. The brass will become a very light yellow which is scarcely detectable amidst the nickel plating. The result is a gleaming finish which looks even better than the collector may have hoped.

Renickeling a specimen is expensive and not recommended. Modern plating processes will seldom equal the original one for polish and brilliance. After going to the expense of having the job done, the collector may likely be disappointed with the result.

One of the best reasons for not refinishing the metal on a B.B gun is that the new finish will not match the condition of the stock. Stock wood can be repaired and refinished to make it look surprisingly good, but never new. A reblued or nickeled B.B gun with a refinished stock will look half good, half bad; there is no way to prevent it. It's kind of like someone who has his face lifted and then discovers he can't take his shirt off at the beach because his chest is wrinkled.

Most stocks show a combination of easily remedied problems: dirt, dents, scratches and deteriorating finish. Sponging off the stock with mild soap and warm water, taking care not to let too much water soak into the wood, will improve its appearance remarkably. If the stock is then warmed in the oven or sunshine for a short time and a good paste wax applied, that is about all that needs to be done to bring it to life.

Occasionally, stocks are found with deep dents or gouges which seriously detract from their appearance. So long as the wood fibers have been crushed but not removed, dents and gouges can be raised to surface level by soaking the spot with water and ironing it with the point of a clothes iron. This steaming process swells the wood fibers, expanding them to fill the depression in the wood. After drying, they can be waxed or refinished as desired. A word of caution: if the stock retains its original varnish, shellac, or Duco finish, the steaming method will leave a bare spot that must be touched up; like any other cleaning technique, stock steaming should be done delicately.

Probably the least desirable approach to stock restoration is revarnishing. Varnish was used on stocks up to the mid 20s, after which two coats of shellac were more popular. In the 30s, DuPont introduced the first of the synthetic finishes, Duco. All of these stock finishes were glossy and clear. Some stocks were stained before finishing. If the collector tries to refinish them to original luster, they will make the metal portions of the gun look ugly by comparison. In the author's opinion, wax or oil are the best materials for restoring a soft glow or patina to stock woods which will enhance the appearance of the gun without competing unfavorably with the gun metal.

Some mechanical repairs to older B.B guns can be made by the amateur gunsmith. One of the most common maladies of older guns is the deterioration of the plunger head bushing, which was almost always made of leather. Replacement bushings can be cut from heavy belting leather and when worn in function as well as the originals. Many were attached to the plunger head by rivets. Others were held on by nothing more than crimped shoemakers' nails. Both can be replaced easily. Later plunger heads often had the plunger rod passing through them with a washer behind and ahead of the leather bushing. The front surface was protected by a second washer. These are more difficult to repair; a new washer can be glued, with Epoxy, to the plunger head, and if not so thick that it bangs into the end of the shot tube, works very well. This works particularly well on B.B guns that are riveted together and cannot be disassembled. Coat both the new washer and the plunger head with Epoxy, tamp the washer down on the head firmly with a screwdriver, and let it harden over night.

Broken mainsprings are a common problem. If the gun is a larger standard model, collectors may have some luck with modern Daisy springs as replacements. With older or smaller B.B guns, one has no choice but to search around for a substitute.

Screws, bolts, nuts, and smaller springs are not a big problem. Many present day Daisy parts make good substitutes. Machine bolts and screws can be found in hardware stores, though they are almost always bright finished and don't look quite as nice as gun metal parts.

Major parts such as cocking pieces, plungers, triggers, and sights are difficult to find. The author can offer little help in this regard except to note that he has always been able to find something to do the job if he scrounged around long enough.

The whole story of B.B gun maintenance is oil, inside and out. For wood and metal upon which the finish is worn through, wax is highly recommended. The few drops of oil boys put down the muzzle now and then on the assumption that something down there needed lubrication is still valid today. Happily, B.B guns once put in good shooting order almost maintain themselves, leaving nothing left for the owner to do but enjoy them.

INDEX

Adams Westlake Co., 105, 110, 127, 128, 136
Adlake, 110
AIR FORCE ROCKET AIR RIFLE, 79
All Metal Products, 104, 107
American Ball Company, 16, 74
American Boy—Youth's Companion, 24, 25, 26, 69, 71
AMERICAN DART RIFLE, 132, 134
American Tool Works, 104, 105, 132, 133
Antique Period, 10
Antique Trader, 146
Armstrong, Neil, 77
Army, U.S., 82, 83
Arrow Machinery Co., 112
ATLAS, 21, 55, 104, 107, 108
Atlas Gun Co., 104, 107
Austin, Charles, 19

"B," 124, 125
Bailey, Elmer, 110, 111
Bartlett, A. F. Co., 117
Barton, Buzz, 71, 72
Bayonet, 21, 42, 66, 97
B.Bs
  Aluminum, 17
  Copper coated, 18
  Lead, 16, 17, 65, 66
  Size, 17
  Steel, 16, 65, 66
BeBee, William, 16, 17
Bennett, Charles, 41, 56, 57, 58, 64, 65, 67, 71, 74
Bennett, F. F., 57, 58
Big Little Books, 17
BIJOU, 103, 106, 124, 125
Bill of Sale, 147
Birthday Reminders, 22
Blueing Process, 66, 67, 77, 149
Boone, Daniel, 23, 24
Bounties, 18
Boy, Daisy the, 66
Boys Life, 69
"Boy Rider, the," 70
Boy Scouts, 18, 19, 69
Brand X, 41
Break-down, 37, 55, 61
Breakopen Action, 31, 35, 37, 139
Briggs, Charles, Cartoons, 21, 22, 26, 42
Brown Shoe Co., 121
Buck, Daisy for a, 72, 75
BUCK JONES SPECIAL, 15, 28, 30, 70, 71, 72, 75, 94, 144
Buckley-Hart Co., 126
BUFFALO BILL, 80, 100
BULLSEYE, 21, 60, 109
Bullseye Air Rifle Co., 105, 109
Burden, Ernie, 63
Burrows, W. J., 58, 59
BUSTER BROWN MODEL, 121, 122
BUZZ BARTON SPECIAL, 28, 67, 70, 71, 72, 73, 75, 94, 95

CHALLENGER, 31, 32, 33, 34, 44, 45, 137, 144
Chamber of Commerce, Jr., 81
Championships, INTERNATIONAL B.B GUN, 81
CHICAGO, 33, 34, 35, 36, 43, 50, 144
Chicago Rifle Co., 105, 131
Cloverine Salve Co., 105
Coconut Grove, 71
CODY SCOUT, 80, 100
Collectible Period, 10
Colliers, 23
Colt, 80
Colt, Samuel, 31
Colt, Woodsman, 72
COLUMBIA, 10, 110, 136
COLUMBIAN, 113, 114, 137
Comic Books, 21, 69
Computers, 65
CRESCENT, 117, 118
Crescent Gun Co., 104, 117
Crescent Salt Co., 104, 117
Crosman Arms Co., Inc., 104, 114
Crosman Guns
  Ml-Carbine, 114, 115
  V-350, 105, 114, 115, 136
  3500, 114, 115
Cross, J. W., 126
CYCLOID, 116
CYCLONE, 60, 116

Daisy Advertising, 40, 41, 42, 66, 67, 68, 69
  Birthday Reminders, 22
  Budget, 21
  First Poster, 22
  Themes, 21

Daisy Boy, the, 66
Daisy Guns:
  AIR FORCE ROCKET RIFLE, 79
  BUCK JONES SPECIAL, 15, 28, 30, 70, 71, 72, 75, 94, 144
  BUFFALO BILL, 80, 100
  BUZZ BARTON SPECIAL, 28, 67, 70, 71, 72, 73, 75, 94, 95
  CODY SCOUT, 80, 100
  DAISY/HAMILTON, 58, 84, 127, 140
  DAISY 2ND MODEL, 58, 60, 84
  DAISY 3RD MODEL, 58, 84
  DAISY 4TH MODEL, 60, 85
  DEFENDER, 21, 79, 98
  GOLDEN EAGLE, 95
  LIGHTNING LOADER CARBINE, 27, 96, 106
  LITTLE DAISY, 88
  MASONIC INITIATION GUNS, 87
  MILITARY MODEL, 21, 40, 66, 80, 92
  MODEL A, 88
  MODEL B, 66, 87
  MODEL C, 89
  MODEL H, 98, 92
  MODEL 12, 92
  MODEL 20, 88
  MODEL 21, 81
  MODEL 25, 93
  MODEL 29, 93
  MODEL 88, 99
  MODEL 95, 80, 100
  MODEL 96, 80, 82, 100
  MODEL 97, 99
  MODEL 98, 79, 98
  MODEL 572, 81, 101
  MODEL 1797, 83, 99
  MODEL 1894, 75, 80, 100
  MODEL 2299, 80, 83, 101
  MODEL 5179, 102
  MODEL 5894, 101
  MODEL 8670, 83, 101
  NO. 3, 90, 91
  NO. 11, 65, 92
  NO. 25 PUMP, 43, 55, 61, 64, 73, 79, 81, 90, 91, 129, 133, 140
  NO. 30, 65, 91
  NO. 75, 98
  NO. 80, 98
  NO. 83, 99
  NO. 94, 98
  NO. 99, 80, 99
  NO. 100, 80, 95, 137, 140
  NO. 101, 72, 75, 84
  NO. 102, 29, 67, 81, 94
  NO. 104, 96, 101
  NO. 105, 93
  NO. 106, 80, 98
  NO. 107, 78, 99
  NO. 108, 96, 106
  NO. 111, 75, 81, 97, 100
  NO. 140, 97
  NO. 141, 98
  NO. 155, 93
  NO. 177, 81, 99
  NO. 179, 80, 83, 99
  NO. 1776, 81, 101, 104
  QUICK KILL, 82, 83
  QUICK SKILL, 82
  RANGER, 93
  RED RYDER CARBINE, 27, 28, 29, 64, 74, 75, 79, 80, 97
  RICOCHET NOISE RIFLE, 79, 83
  SEARS REPLICA CENTENNIAL RIFLE, 80
  TARGETEER, 72, 74, 79, 80, 95
  TWENTIETH CENTURY MODEL, 57, 60, 66, 85, 86
  102 CUB, 79, 83
  500 SHOT, 86
  1000 SHOT, 56, 57, 60, 86
Daisy Manufacturing Co., 9, 35, 52, 55, 56, 58, 107, 118
DANDY, 21, 107
Darts, 39, 56
David of Syria, 23, 26
Decker, Frederick, 124
Decker, George, 124
Decker Manufacturing Co., 104, 124
DEFENDER, 21, 79, 98, 131
DeMoulin Patent, 87
Depression, 44, 64, 69, 104, 128, 129
DEWEY, 21, 60, 117
Double barrel, 96
Dowell, Ely, Manufacturing Co., 118
Dubuar, J. A., 105, 118, 119, 121
Dubuar Manufacturing Co., 104, 118, 120
Dumps, 18, 19

Ecology, 9

Farm Journal, the, 67
Fisher, C. H., 116

Gates, George Co., 106
GENERAL CUSTER REPEATER, 121, 123
GLOBE, 35, 55, 104, 106, 117, 118, 119, 120, 121, 122
Globe Manufacturing Co., 120
GOLDEN EAGLE, 95
Greenleaf, W. B., 43
Gunn, George P., 106, 107

Hagen, Walter, 21, 23
Hamilton, Clarence, 35, 52, 53, 54, 55, 56, 60, 103, 104
Hamilton Rifle, 56
Harman, Fred, 74, 75
Harpoon, 16, 17
Hart, H. C., 126, 127
Hart, Henry C. Manufacturing Co., 104, 126
Hart, H. P., 126
Hart, R. W., 126
Hatton, Raymond, 71
Haviland & Gunn, 107
Hayden, C. J., 126
Heddon, James and Sons Co., 56
Heilprin Co., 105, 110, 112, 116, 137, 144
Heilprin Guns:
  COLUMBIAN, 113, 114, 137
  JUNIOR, 110, 112
  99, 110, 113
  1898, 110, 113
  1900, 110, 113
Heilprin, William, 110, 111, 112
HERKIMER, 104, 123
HEXAGON, 106, 124, 126
Hexagon Air Rifle Co., 104, 124

Hibbard Spencer Barlett Company, 57
Holt, Jack, 21, 22, 69
Hough, Cass, 16, 42, 43, 44, 64, 65, 67, 69 70, 71, 73, 74, 75
Hough Edward, 41, 52, 58, 59, 60, 64, 65, 67, 69, 130
Hough, Foundation, 81
Hough, Lewis, 43, 52, 53, 55, 56, 67

International Air Gun Museum, 64, 117
Ives, A., 126

Jones, Buck, 21, 70, 71, 72
JUNIOR, 110, 112

Karcher, A. A., 132
KING, 35, 36, 37, 38, 39, 45, 47, 67, 69, 70, 117
King Air Rifle Company, 43, 44, 133
KING JUNIOR NO. 10, 49
KING KADET, 42, 43, 50
KING LEADER NO. 53, 49
KING MODEL C, 49
KING MODEL D, 48
KING MODEL E, 47

Lawson, H. H., 11
Lefever, Charles, 60, 61, 62, 64, 65, 72, 80, 136, 140
Lemke, Alexander, 117
Lever Action, 40, 60, 65, 140, 141
Liberty, 23
Liberty Bonds, 27
LIGHTNING LOADER CARBINE, 27, 96, 106
LITTLE DAISY, 88
Literary Digest, 23
Loomis, C. C., 129, 130

MAGIC, 21, 57, 103, 124, 125
Maintenance, 29, 148, 149, 150
March of Dimes, 27
Markham, Advertising, 41, 44
Markham Air Rifle Co., 9, 31, 34, 37, 39, 41, 42, 43, 44, 52, 58, 64, 69, 118
Markham Guns:
  BREECH LOADER NO. 17, 50
  CHALLENGER, 31, 32, 33, 34, 44, 45, 137, 144
  CHICAGO, 33, 34, 35, 36, 43, 45, 144
  KING, 35, 36, 37, 38, 39, 45, 47
  KING JUNIOR NO. 10, 49
  KING KADET, 42, 43, 50
  KING LEADER NO. 5B, 49
  KING MODEL C, 49
  KING MODEL D, 48
  KING MODEL E, 47
  NEW CHICAGO, 43, 50, 51
  NEW KING, 46
  NEW KING REPEATER, 46
  NEW RIVAL, 46
  MODEL 55, 51
  OLD RELIABLE, 35, 36
  PRINCE, 21, 35, 37, 46
  SENTINAL, 37, 38, 47, 48
  SINGLE SHOT, NO. 21, 50, 51
  THREE-IN-ONE, 39
  500 SHOT, 40, 48
  500 SHOT NO. 22, 50, 51
  1000 SHOT, 40, 42, 44, 48, 51
Markham, W. F., 9, 10, 31, 32, 35, 36, 37, 40, 52, 137
MARKSMAN AIR PISTOL, 105, 136
Marksman Company, 105
Marlin, 58, 140
MASONIC INITIATION GUNS, 87
MATCHLESS, 55, 104, 126, 127, 128, 140
Maynard, Ken, 70
McCoy, Tim, 71
M1 CARBINE, 114, 115
MICHIGAN AIR RIFLE, 121, 123
Michigan State University, 81
Michigan University, 69
MILITARY MODEL 40, 21, 66, 80, 92
Mix, Tom, 70
Modern Period, 10
Monk, T. A., 110, 111
Montgomery Ward, 26, 35, 104, 127
Murray, M. W., 126
Museum, International Air Gun, 64, 117

NEW CHICAGO, 43, 50, 51
NEW KING, 45
NEW KING REPEATER, 46
NEW RAPID, 116, 140
NEW RIVAL, 46
NRA, 101

OLD RELIABLE, 35
Open Road for Boys, 69
Outdoor Education Project, 81
OZIEHS, 117, 118

Patents, U.S.:
  372161, 31, 32
  390297, 53
  390311, 53
  408971, 53, 54
  420316, 119
  421793, 108
  437491, 127
  455942, 55
  473633, 34
  477385, 33
  483159, 35
  487169, 111
  541085, 106
  553716, 35, 36
  557849, 35, 36
  603549, 111
  655170, 35, 37
  670760, 58
  689923, 116
  696461, 35, 37
  718646, 37
  742734, 37, 38
  765270, 59
  808680, 37, 38
  830121, 106
  841815, 123
  842324, 39
  878560, 39
  903092, 59
  911056, 39, 40
  944188, 111

  959889, 109
  1,062,855, 40, 41
  1,098,151, 111
  1,098,321, 112
  1,101,698, 132
  1,102,204, 130, 131
  1,250,304, 43
  1,268,238, 43
  1,589,975, 65
  1,686,702, 65
  1,760,652, 130
  1,830,763, 130
  2,131,173, 72
  3,212,490, 114
Pattengill, O. R., 54
PEACEMAKER REVOLVER, 80, 99
Peerless Manufacturing Co., 106
Pinckney, C. A., 53
Plastics, 76, 77, 79, 80, 81
Plating, Nickel, 66, 67, 149; Copper, 95
Plymouth Air Rifle Company, 103, 104
Plymouth Iron Windmill Company, 52, 53, 55, 132
Polley, D. F., 37, 38, 39, 40
Pop Guns, 21, 39, 44, 137
Prices (discussed) , 147, 148
PRINCE, 21, 35, 37, 46, 55
Pump Action, 43, 61, 140, 142, 143
Push Barrel Action, 138, 140

Quackenbush, H. M., 104, 123, 136
Quackenbush, P. H., 123
QUICK KILL B.B GUN, 82, 83
QUICK SKILL B.B GUN, 82

RANGER, 93, 133, 135
Rapid Rifle Co. Ltd., 116
Rapid Rifle Co. Ltd. Guns:
  CYCLOID, 116
  CYCLONE, 116
  NEW RAPID, 116
Raymond, J. C., 16
Red Cross, 27
Reddeman, Floyd, 69
RED RYDER CARBINE, 27, 28, 29, 64, 74, 75, 76, 79, 80, 97
Remington, 81, 104, 128, 129, 140
REMINGTON MODEL 26, 104, 128, 129, 144
Repairs, 29, 148, 149, 150
Repeater, 34, 37, 38, 41, 46, 60
RICOCHET NOISE RIFLE, 79, 83
Roe, E. S., 39, 40, 41, 43
Rogers, Buck, 71, 72
Root, 54, 55
Rose Bowl, 80
Ross, H. C., 116
"Rough Riders," 71

Sage, G. W., 31, 33, 34, 40, 103
Saturday Evening Post, 23
Savage Pistol, 64, 140
SCOUT, OLD, 21, 22, 23
Searle, E. H., 109
SEARS REPLICA CENTENNIAL RIFLE, 80
Sears, Roebuck, 31, 35, 42, 43, 64, 81, 104, 107, 117, 127, 133, 135
SENTINAL, 37, 38, 47, 48
Shotgun News, 146
Shot Tube, Removable, 35, 38, 60, 65
Shue, Earl, 105, 130, 131
Simonds, F. A., 116
SIMPLEX, 10, 105, 131
"Single Shot Kid," the, 70
Smith, W. H. B., 11
Sousa, John Phillip, 21, 23, 69
Stanley, Merritt, 103, 104, 118, 119, 120
Step Barrel, 37
STERLING, 57, 105, 106, 132, 133, 134, 135
Stevens, Hunter's Pet, 53
Sunkist, 30

Take-down: *See* Break-down
TARGETEER, 72, 74, 79, 80, 81, 95, 136
Telescope sight, Daisy, 79, 80, 81, 99
Thomson, Fred, 70
Thorson and Cassidy, 33, 34, 144
THREE-IN-ONE, 39
Toumy, Uncle Neil, 69
Transitional Period, 10
Trowbridge, F. C., 124

Underlever Action, 33, 34
UPTON, 135
Upton Machine Company, 64, 103, 104, 105, 132, 133
U.S. Patents: *See,* Patents

V-350, 105, 114, 115, 136
Valkenburg, R. V., 120
Velocity, 21
VICTOR, 107, 108
Victor Comptometer Corporation, 56
VICTORY, 21, 60
Vietnam, 82
Vintage Period, 10

Warren, Gilbert W., 106, 107
WARRIOR, 105, 122
Weaver, George W., 107, 108
Welding, 64
Wesley, Robert, 69
Wesson, Frank, 53
Wheeler, A. K., 104, 116
Wheeler Co., 104, 140
Winchester, 58, 110, 140
Windmills, 52, 54
"Wizzard of the Saddle," 70
WJR, Detroit, 69
Wolfe, Eldon, 11
Wooden B.B Gun, 31
WYANDOTTE, 132, 133, 135

Yerkes, E. P., 11

Zuppke, Bob, 21, 23

nd
en-
so
any
as

to
zen
ten
and
hor
ect-
ible

sive
be
ders
the

6752
03-5

S.A.

683.42
7[redacted] Dun

Dunathan, Arni T.
The American B. B gun: a
collector's guide

(Continued from front flap)

ham and Daisy, from their spirited and sometimes bitter competition to the eventual emergence of Daisy as a name so synonymous with B.B guns that many men today recall the gun they owned as a Daisy even when it was not.

The remaining pages are devoted to identifying the guns of nearly two dozen manufacturers whose histories were often brief, and whose guns are today rare and elusive. In the last chapter, the author shares tested advice for locating, collecting, restoring and maintaining collectible B.B guns.

This first and only comprehensive guide to American B.B guns is sure to be enthusiastically recognized by readers everywhere as a "must" addition to the basic reference shelf.

L.C. 77-146752
ISBN 0-498-07803-5

Printed in the U.S.A.

About the Author

Arni T. Dunathan has been active in outdoor sports all his life, particularly hunting, fishing and water sports. An avid gun collector, he three times amassed and disposed of collections of early American firearms before turning his attention to the most fundamental of American guns, the B.B gun.

A researcher and teacher by profession, he attended Northwestern University, Michigan State University and the University of Utah, earning a B.A., M.A., and Ed.D. He has been a teacher and administrator in the public schools, a junior college instructor, and is presently an Associate Professor of Education and Director of the Instructional Media Laboratory at the University of Missouri.

Although he has written numerous professional articles, this is his first book. He is currently researching a second on the subject of American toy guns.

Dr. Dunathan and his wife, Novelle, are the parents of two children: Clint, 13, and Dari, 10.

South Brunswick and New York: A. S. Barnes and Company
London: Thomas Yoseloff Ltd

[redacted] Dun

Dunathan,
The Americ
collector